

# The Boston Medical and Surgical Journal

## TABLE OF CONTENTS

May 13, 1920

| ORIGINAL ARTICLES  |     | OBITUARY  |     |
|--|-----|---|-----|
| DISTURBANCES CAUSED BY PROTEINS. <i>By J. A. Turnbull, M.D., Boston.</i>                                   | 493 | RICHARD JAMES FLUMER GOODWIN, M.D.  | 517 |
| USE AND ABUSE OF MECHANICAL SUPPORTS IN ORTHOPEDIC CONDITIONS. <i>By Herman W. Marshall, M.D., Boston.</i> | 497 | CORRESPONDENCE  |     |
| THE PRODUCT OF A UROLOGICAL CLINIC. <i>By William C. Quinby, M.D., Boston (continued).</i>                 | 502 | THE MEDICAL PROFESSION AND LEONARD WOOD. <i>Henry Jackson, Harvey Cushing, Hugh Williams, Edwin A. Locke, Franklin G. Balch, John T. Bottomley.</i> | 519 |
| BOOK REVIEWS   |     | NARCOTIC PRESCRIPTIONS SHOULD BE WRITTEN IN INK. <i>Chas. H. Davis.</i>   | 520 |
| Anatomy of the Peripheral Nerves. <i>By A. Melville Paterson, M.D.</i>                                     | 508 | AN EARLY CASE OF PULMONARY SYPHILIS AND ITS CURE. <i>Wm. Pearce Cowen, M.D.</i>   | 520 |
| A Textbook of Pathology. <i>By Francis Delafeld, M.D., and T. Mitchell Prudden, M.D.</i>                   | 508 | MISCELLANY  |     |
| EDITORIALS   |     | HEALTH DIVIDENDS YOU HAVE DRAWN. <i>By Stanley H. Osborn, M.D., C.P.H., Boston.</i>   | 517 |
| LEGISLATION ON MEDICAL MATTERS.  | 509 | NOTICES, RECENT DEATHS, ETC.  | 520 |
| HISTORY OF THE STATE HEALTH DEPARTMENT OF MASSACHUSETTS.   | 510 |   |     |
| THE PHILIPPINE HEALTH SERVICE.   | 512 |   |     |
| PROPOSED READJUSTMENT OF OUR INSANITY LAWS.  | 514 |   |     |
| MEDICAL NOTES.   | 514 |   |     |

### Original Articles.

#### DISTURBANCES CAUSED BY PROTEINS.\*

By J. A. TURNBULL, M.D., BOSTON.

As a profession our object is protection of the human body from disease or disturbance of its normal functions. Certain disturbances brought about in the body are caused by proteins or their derivatives. Such conditions may be designated as hypersensitiveness, protein sensitization, anaphylaxis or allergy. Proteins which produce these conditions are toxic to those patients who show a sensitization to the different proteins. These sensitive proteins either gain an entrance in the body in their foreign state, by this I mean undigested form, and thus being foreign to the blood stream and body fluids, act as a foreign body. This foreign substance in the body fluids parenterally digested, may produce substance or substances which are abnormal to the body fluids, or by their presence there, either as an unfriendly element, or by an excess of such material, or by its action on the system, produce either a diminished amount or an excess of proteolytic ferments, which produce substances inimical to

the body. This same condition may apply to those which enter through the gastrointestinal tract.

We may have either an excess or deficiency of digestive ferments which will produce abnormal constituents, causing disturbances of the intestinal tract. Such substances on absorption are either neutralized or made inactive by the body fluids or without the presence of an enzyme to act as a neutralizer of this absorbed material. This substance is carried throughout the body causing general disturbances or circulates through the body until it meets a part or organ upon which it manifests its dynamic action, until its force is spent. This action may manifest itself in different ways on various organs of the body in different individuals. These disturbances take place either through their action on the muscular tissue of the walls or nerve apparatus of the blood vessel, or on the heart muscle, which is attended by an alteration of the vasomotor system, which responds in different ways, according to the nature and degree of dynamic irritation and irritability of the vasomotor system. These sensitizations are brought about by proteins of animal or vegetable origin; these include the bacterial proteins, or we may have proteins of these two kingdoms acting on the same individual, each mani-

\* Read before the Worcester District Medical Society.

festing the same disturbance or different action on various parts of the body.

Sensitizations may be either hereditary or acquired. We may have hereditary hypersensitiveness, with later in life an additional acquired sensitiveness. The hereditary form may be transmitted from mother to offspring, passing through a number of successive generations, or we may have an absence in a few generations with an appearance later, showing a similar condition in each or a sensitiveness manifested in various forms in different generations. Thus, we may have different individuals of the same family or of different generations subject to disturbances of the respiratory tract. One may have perennial vasomotor rhinitis, another seasonal hay fever, while the third may have bronchitis or bronchial asthma; or the individuals of the same family may have seasonal hay fever occurring at the same time or different seasons, as, they may have a fall type of hay fever, or one the spring, and the other the fall type; or, on the other hand, while one shows disturbances of the respiratory tract, another generation or member of the same family may have anaphylactic disturbances manifested by headache, gastrointestinal, dermatological, or arthritic symptoms; or we may have one or more of these disturbances exhibited in the same individual. As an illustration of these remarks, one member of a family has vasomotor rhinitis when near or driving behind a horse, while another has immediate attacks of asthma; or we may have nasal disturbances and bronchial asthma in the same case, while another may have respiratory disturbance and cutaneous manifestations. Acquired sensitizations may be produced as follows:

1. Some intercurrent disease, infectious, prolonged illness, over-exertion, worry.
2. Absorption of bacterial products from some focus or foci.
3. Over-eating or repeated eating of certain articles of food over a long period of time, or it may be due to eating certain foods too soon after some serious illness or exhaustion. We may have a combination of one or more of these sources in the same individual.

The avenues of entrance of proteins are:

1. Respiratory.
2. Gastrointestinal.
3. Focus or foci of infection.
4. Cutaneous.

We may have one or more of these avenues combined; as, respiratory and gastrointestinal, respiratory and foci of infection or respiratory gastrointestinal, cutaneous and foci in the same individual.

From these avenues of absorption their action may be manifested by headaches, vasomotor rhinitis, hay fever, chronic bronchitis, bronchial asthma, hyperacidity, nausea, vomiting, flatulence, constipation, diarrhea, gastrointestinal colic, which in some cases may stimulate gastric ulcers, acute intestinal obstruction, acute appendix, or we may have various arthritic manifestations or cutaneous disturbances, as, eczema, urticaria, prurigo, erythema multiforme, angio-neurotic oedema.

Some are moderately resistant, others extremely sensitive. Each individual is profoundly different from his neighbor, each has been anaphylactized to different degrees against different substances, each has his humoral as well as his psychological individuality to differentiate him.

Hay fevers are produced by the pollen proteins of plants; the extent of the activity of the pollen varies according to the size and weight, which depends on the distance they may be carried by the wind. The lighter pollen, as, grasses and ragweed, being carried farther, consequently a greater range of activity than heavy pollen, as that of corn. Another property on which the activity depends is shape, the spherical which acts by absorption of its protein alone, containing larger quantities of protein than the spiculated pollen, which acts directly by the irritation of the spicules and absorption of its proteins. The following table shows plants which produce hay fever, season of occurrence and their duration:

| PLANT       | SEASON         | DURATION  |
|-------------|----------------|-----------|
| Pussywillow | March          | 2 weeks   |
| Birch       | April          | 3 weeks   |
| Oak         | May            | 2 weeks   |
| Maple       |                |           |
| Apple       |                |           |
| Cherry      |                |           |
| Plum        |                |           |
| Pear        | June           | 4-7 weeks |
| Grasses     |                |           |
| Rose        | July           |           |
| Ragweed     | Aug. and Sept. |           |
| Goldenrod   | 3-10 weeks     |           |
| Cocklebur   |                |           |
| Sunflower   |                |           |

Those having the August and September variety form the greater number of sufferers; next in order are those due to the various grasses

of June and July; then the birch, oak and maple of April and May. Those affected by the pollen of the fruit plants are less in number.

The duration of the pollen activity of the various plants varies from two to ten weeks. Some patients may be disturbed by the pollen of one particular species and season, as the ragweed of August and September, while others are sensitive to several pollens, covering a period of different pollenating seasons, thus beginning with birch of April, later being affected by the ragweed of August and September, or there are some whose symptoms begin with the birch of April and are continued through the different pollenating seasons. In these cases, the continuation of symptoms is due either to bacterial products or food proteins. The treatment of hay fever cases: (1) they may be sent away from the districts of wind-borne pollens either to mountainous areas, free from pollens, or on an ocean voyage; (2) or be desensitized to the pollen to which they are sensitive. In desensitizing, begin treatments with small doses of the pollen protein solution, subcutaneously, gradually increasing the dose, according to the local action, which shows by an erythema at sight of injection, avoiding too great reaction. By this, I mean, an erythema greater than a half-inch in diameter. If after a treatment the erythema is greater than a half-inch, repeat the same dose at next visit; if less, the dose may be increased from one-half to double the previous dose. Treatments are given from three to seven-day intervals, depending on the time of beginning the treatments. If the treatments start ten to twelve weeks previous to the pollenating season, may give doses at seven-day intervals; if starting later, lessen the intervals. In some cases, it is well to stop treatments previous to pollen liberation; others do better by continuing treatments during the season. I have seen excellent results with some cases where treatment was begun after onset of symptoms. These cases in which there is a continuation of symptoms beyond the pollenating season, due to action of bacterial products, may be treated by desensitization with bacterial extracts.

I am now using bacterial extracts from which the fats and waxes have been removed, making solution of these and using subcutaneously. In other cases, the continuation of symptoms may

be due to food products. In these the omission of the sensitive foods from the diet will relieve patient from symptoms; in others we may have both a bacterial and a food product cause of symptoms. These are treated by omitting sensitive foods from the diet and treatment with sensitive bacterial extracts. Some of the hay fever cases develop asthma with their seasonal attacks, which is due to the action of the pollen or the pollen protein and bacteria on the respiratory tract. The action of pollen protein, besides the local disturbances of the respiratory tract, produces malaise, fever and chills, gastrointestinal disturbances with anorexia. A few may have local skin disturbances, as, erythema and urticaria, due to the pollen protein local action on the skin. I believe that in asthma and bronchitis there is produced the same condition upon the lower respiratory tract that takes place in the nose in vasomotor rhinitis; viz., a boggy, oedematous condition of the mucous membrane with a watery exudate and considerable secretion of mucus. I am well aware that the nasal mucosa and erectile tissue of the turbinate is not so closely bound down and allows a greater opportunity for oedema than the mucous membrane of the bronchi and bronchioles. Notwithstanding such an anatomical arrangement throughout the large bronchial area that a vasodilatation occurs, allowing an exudate of a watery secretion and a stimulation of the mucous gland, thus causing considerable oedema of the lower respiratory tract. With this diminished diameter of the bronchial tube and consequently pressure on the nerves of the oedematous area, which no doubt acts by producing a spasmodic contraction of the bronchial muscles. I have drawn these conclusions from: (1) auscultation of the chest of an asthmatic during an attack and from the expectoration, (2) by the action of the adrenalin when given for relief of attack of asthma, (3) through the production of asthma by injection of a sensitive pollen sufficient to produce an anaphylactic shock.

Anaphylactic shock may be produced by the injection of a greater amount of a sensitive protein than the system can take care of without production of general systemic disturbances, which are very uncomfortable and alarming for patient and physician.

These disturbances are manifested by a feel-

ing of pressure in the head, vertex being blown off, roaring in the ears, injection of the conjunctiva, blocking of the nose, and sensation of laryngeal and suprasternal obstruction, difficult respiration both in inspiratory and expiratory, wheezing, chest râles, short repeated expiratory cough, oedema of the eyelids, erythema and swelling of the forehead, face, neck, chest, extending over the entire body with severe itching and urticarial patches, some of the patches being several inches in area, followed by a watery diarrhea with frequent passing of large quantities of urine. This condition is a pitiable sight and patient unable to talk on account of respiratory discomfort, but the whole category of symptoms and relief of the distress and anxiety may be obtained within five to ten minutes by the use of adrenalin chloride 1-1000 10-15 minims subcutaneously, intravenously or intramuscularly.

I believe that with one taking into the gastrointestinal tract proteins to which we are sensitive, we have the same vasomotor disturbances of different parts of the whole intestinal tract: *viz.*, vasodilatation, similar to that which occurs in the nose in vasomotor rhinitis, or on the cutaneous surface when we obtain a positive reaction to a sensitive protein; *viz.*, an erythema or wheal or erythema and wheal combined. With this oedema of the gastrointestinal mucosa and submucosa, we may have a hyperacidity, or in some cases, a hypoacidity. These changes taking place in the stomach or duodenum may stimulate a gastric or duodenal ulcer, and in the intestinal tract an acute obstruction or acute appendicitis.

CASE 1. Female, age 48. When sixteen years of age, frequent attacks of sneezing, watery nasal discharge, itching of the eyes, ears, nose, and throat, with marked dryness of the throat. When 18, began suffering with asthma, which attacks increased in severity and frequency; at same time disturbed with heart burn, headaches, flatulency; noticed when working with wheat flour, brought on at once sneezing, and within a few minutes, asthma. These symptoms were so disturbing that patient would tie a folded wet towel about the mouth and nose when working with flour. Patient gave cutaneous reactions to wheat, rice, corn, barley; negative to oats. With omission of these articles from diet all nasal respiratory and gastrointestinal symptoms disappeared.

CASE 2. Boy, age 5, asthma and eczema since one year of age, increase in frequency of at-

tacks of asthma and larger area affected by eczema as the child grew older. Mother was positive eggs brought on attacks, and if child showed no reaction to eggs, would not have faith in tests. Positive reaction to wheat, rice, chicken. Negative to eggs and other foods. Wheat, rice, chicken omitted from diet, one egg eaten every day, complete relief from asthma and all cutaneous disturbances. I mention this case, on account of positive statement of mother, that eggs disturbed child, which in this case was not so, but the child usually had egg with wheat or rice, these being the disturbing elements.

CASE 3. Male, age 42, vasomotor rhinitis, and asthma for three years. Positive to beef, pork, salmon. Omitting these from diet, complete relief from symptoms. After three months patient returned, stating for three successive mornings suffered from nausea, abdominal pain and colic. On third morning distress was so great, patient was incapacitated for work. Investigation showed he had been eating a breakfast food which, on testing, gave positive cutaneous reaction. Found this food contained wheat, oats, corn, rye, barley, linseed. Negative reaction to wheat, barley, oats, corn, rye. Positive to linseed, the latter being omitted from diet; no return of symptoms.

CASE 4. Female, age 48. Asthma since 20 years of age, nasal polyps, which recurred after frequent removals. Positive reaction to cheese, lamb, pork, chicken, and a few of the fish. After omitting these from the diet, no asthmatic disturbances. Being free for three months, I instructed the patient to eat plenty of lamb. One lamb chop eaten at 1 P.M. produced by 7 P.M., dryness of the throat, blocking of the nose, sneezing, watery nasal discharge, lachrymation. Patient did not consider these symptoms having any associations with asthma; so, forty-eight hours later, ate two lamb chops at 1 P.M. At 7 P.M., same symptoms as with one lamb chop; at 9 P.M., asthma lasting three hours; next morning eczema over entire body, which patient never had before. Omitted lamb chop from diet, eczema disappeared. I mention this case to show nasal disturbances produced by one lamb chop, a larger amount producing both nasal and bronchial, and eighteen hours later, cutaneous disturbances. This eczema was a new condition for patient, no doubt brought on by the absence of lamb from diet for three months, which lessened the antibodies the lamb previously eaten had formed, and with these diminished antibodies and ingestion of this amount of lamb, there was a liberation of a large amount of foreign protein, which exerted its influence on the respiratory tract, also, electing the cutaneous surface as a new manifestation. Later this patient was treated with lamb protein solution hypodermically, at weekly intervals, beginning with small doses, gradually



increasing the dose, according to local reaction. After a number of injections, was desensitized to lamb and could partake of it without any disturbances.

CASE 5. Child, age 5. Eczema two months of age, entire body affected, skin indurated, rough and scaly. Mother stated, least amount of egg in the mouth would cause swelling of the tongue and mucous membrane of the mouth. Beef broth increased the eczema; when near fish, would suffer from acute exacerbation of eczema. Positive reaction to egg, beef, haddock, cod, salmon, halibut, smelts.

CASE 6. Female, age 24. Since 14 years of age, after eating any of the vertebrate fish, as haddock, cod, filet of sole, salmon, one hour later will have dryness of the throat, sneezing, swelling of the eyelids and cheeks, erythema of the face and neck, with nausea, vomiting, gastrointestinal, lasting from two to four hours. Since twenty-two years of age, halibut has produced the same symptoms which previously had no ill effects. These fish gave marked positive skin reaction. The following six weeks, after making tests, patient ate halibut and cod three or four times without disturbances. Here, no doubt, antibodies had formed, due to the amount absorbed from the skin tests, which was sufficient to neutralize the foreign protein, which gained an entrance to the body tissue. After ingestion of these fish, after six weeks, had the usual train of symptoms, when eating the vertebrate fish. Various vegetables, fruits, nuts, will produce disturbances in some individuals.

Lately we have seen articles in the press and journals regarding peanut bronchitis, from the lodging of a peanut in the bronchi; in this case the symptoms are produced by a foreign body. I have a case in whom I can produce bronchitis and asthma, by eating peanuts, not due to the lodging of a foreign body in the bronchi, but by absorption of peanut protein. Among those of the inhalation type of disturbances, besides the typical hay fever cases, are those produced by various animals, namely, the horse, cow, cat, dog, rabbit, guinea pig, chicken, in fact any fowl or animal, even to the mouse. In these cases we have the inhalation of the dandruff or hair protein, which causes disturbances. Patient may be sensitive to the dandruff of an animal and not to the serum of that animal, and *vice versa* to the serum and not the dandruff, or, may be sensitive to both dandruff and serum. In case of one being sensitive to the horse dandruff and not to the serum, there is no disturbance produced by the use of diphtheria antitoxine, but if the patient is sensitive to

horse serum, would have anaphylactic shock, and in some case death, following injection of diphtheria antitoxine; same would apply to the use of the serum of any animal. In case of asthmatic disturbances due to dandruff of animals, the patient may either avoid those animals, or we can desensitize the patient to the protein dandruff of those animals, by the hypodermic use of small increasing dose of the susceptible dandruff protein.

The disturbances produced by proteins are many and varied. I do not wish to leave the impression that all ills are due to proteins, but that many conditions which in the past we have been unable to locate any particular cause and have called such patients neurasthenics.

I would say, investigate the protein sensitization, and when I say, investigate, I mean go into the case thoroughly, not with half a dozen or so of proteins, but many. Such investigations will be time well spent, not only for the benefit of the patient, but satisfaction of the physician.

#### USE AND ABUSE OF MECHANICAL SUPPORTS IN ORTHOPEDIC CONDITIONS.

BY HERMAN W. MARSHALL, M.D., BOSTON.

MECHANICAL braces and appliances continue to be objects of very considerable condemnation or approval; yet the question naturally arises why favorable or unfavorable comments should not be transferred from apparatus itself to physicians' methods of prescriptions since successes and failures depend on doctors' ideas of suitable construction and fitting of braces, and on their judgments of patients' capacities for using apparatus properly.

Mechanical supports are reliable and effective when used rightly, and an appropriate time has arrived, perhaps, to rediscover their numerous advantages, and to compare in frankly one-sided manner for sake of emphasis their good features with drawbacks or failures resulting from all other measures.

Some persons will consider this rehashing of old facts undoubtedly of comparatively little value in contrast to pressing forward on the crest of the foremost wave of medical progress. Nevertheless, the writer takes the stand that there can be too rapid development for best

quality of medical attainment, and best balanced judgments, changes taking place within the domain of medicine being comparable to rapid changes occurring in many other departments of the world's activity now. So it seems there shouldn't be added to recent industrial instability and undesirable lawlessness any harmful medical advances that assume a malignant phase because of their quick unbalanced growth. This paper aims therefore at presenting old facts in new lights and at consolidating gains previously made.

Leaving aside the topic of artificial prostheses which are designed to replace parts of the body that have been lost, attention will be directed solely to use of mechanical appliances in injuries or diseases of bones, joints and muscles, omitting army contrivances newly designed or resurrected for emergency use in recent injuries.

Narrowing down the discussion to concrete examples, and first to a very common severe injury, namely, fracture of leg bones at the ankle, the following facts about this one topic will be reviewed.

Everyone is agreed that the fractured parts should be put at rest completely during early stages of repair, that deformities should be corrected as quickly and perfectly as the damage permits, and that there must be limbering up measures instituted later to restore normal functions. Beyond this point diversity of opinion generally arises. Some doctors insist on very early passive motions before bony fragments have united firmly. Others insist that early voluntary movements are especially desirable. Physical therapists preach the value of baking, electricity and massage. Surgeons advocate operations on slowly uniting fractures. Constitutional tendencies preventing quick recoveries are fought with internal medical measures and hygiene. Braces are of value when ligaments about ankle joints remain, or become, chronically weakened and stretched. Braces provided with arrangements for limited motion of ankle joints are especially useful when upper limits of dorsiflexion of feet continue to cause pain. Braces designed properly afford protection enough not infrequently for slowly uniting or diseased bones at the same time they permit freedom sufficient for accelerated restoration of functions in the soft tissues.

It would be possible to collect numerous

cases in which massage and exercises have been given too early, or baking has aggravated rather than lessened symptoms, also cases in which surgery has delayed recovery or plaster casts have afforded too much protection. Other patients who have received electrical treatments for restoration of muscle function have obtained benefit for muscles from the active contractions thus induced, yet the latter have influenced partially united or chronically irritated bone fragments in turn equally harmfully.

To this list might be added the very considerable number of patients who have recovered finally with use of mechanical supports after one or several of the various other therapeutic means have failed.

It isn't necessary to cite actual cases to make clear the point that disproportionate development of any single method, to the exclusion of the others, can be a really malignant tendency at the present time, and that it should be combated increasingly by balanced considerations of the whole field. Medical requirements among different cases in reality are constantly shifting ones, damaged bones, stiffening muscles, strained ligaments, irritated synovial linings, in turn and in no fixed order demanding foremost attention.

Braces should not be condemned dogmatically and discarded completely as is so often done because of their obvious limitations; for with them can be combined numerous features simultaneously that are otherwise unavailable. They can be constructed so as to protect weakened bones and to prevent localized synovial irritations, while permitting limited or unlimited use of certain groups of muscles and ligaments as desired. Condemnations and approvals therefore should be shifted to physicians on whom responsibilities rightfully rest.

Use and abuse of metal arch supports for flat feet is another topic that can be explained briefly.

Merits of arch supports were recognized so quickly and widely that their sale became commercialized to a harmful degree. Then when their limitations became widely recognized there was a swinging of the pendulum of favorable opinion somewhat away from metal foot plates to footwear of increased flexibility which exercised instead of rested the muscles of the feet and legs.

Many wearers of plates were benefited sub-

sequently by the wearing of flexible shoes and naturally, yet erroneously, they condemned the supports instead of their doctors or shoe fitters. Many other persons have discovered that extremely flexible shoes are not suited to their muscle strengths, and with this revelation sufficient data have been assembled for correct understanding of the situation.

Plates are beneficial and convenient during earlier stages of foot weakness in order to rest feet temporarily, while exercises and flexible shoes are essential for best results after a preliminary resting period. The main difficulties have been that neither patients nor prescribers of plates or shoes have realized fully what had to be expected, and they have not known exactly how or when to make purposeful changes from one to the other method until normal states have been restored. They have not understood fully that either supports or exercises can be abused easily. The responsibility for poor results, however, lies with physicians, patients and shoefitters and appliances themselves should not be condemned.

Back strains and their treatments have been launched on a course apparently similar to the one travelled in development of knowledge of foot strains.

There are almost as many incomplete one-phase methods in use with back troubles as there have been in treatment of foot strains. Back supports are permanently attached to corsets similarly as foot plates have been incorporated in shoes without any understanding of the temporary need simply of support in the majority of instances, and numerous patients thus have been made unduly dependent on artificial aids even to weakening their backs still further in this manner. Exercises have been prescribed likewise not infrequently in a one-sided way, which has prolonged instead of abbreviated duration of symptoms. Anatomical postures of backs have monopolized undue attention in a manner that mere flatness of feet was given too much prominence until it was realized that many flat feet are as strong or stronger than some with high arches. Underlying causes for developing musculo-ligamentous weaknesses in backs have been ignored in treatment similarly as analogous causes for muscular weaknesses in foot defects have been neglected.

Too elaborate supports are prescribed sometimes for slight weaknesses, and also too slight

supports are given for rapidly developing weaknesses of severe and prolonged courses. Undoubtedly more harm than good has been done by many of these incomplete one-phase methods, yet, as in the previously mentioned illustrations the responsibility rests rightfully with physicians rather than with apparatus. It is not fair to patients nor to reputable medical practice to attempt the use of braces unless their possibilities and limitations are understood and explained to patients who are capable of understanding their situations.

Knees, elbows, wrists, hips, shoulders, and necks each present their special mechanical peculiarities; and similar remarks are applicable to use of apparatus designed for these different regions.

Anterior poliomyelitis, tuberculosis of the spine and of other joints, as well as other very chronic infectious processes of bones and joints, are treated often with mechanical apparatus; and the latter has proved its great worth so conclusively in these types of cases in spite of accompanying discomforts that nothing need be said further in its justification.

It is the class of "simple" muscle or ligament strains and weak, faulty unions in fractures, those cases which sooner or later recover completely, about which doubts and questions now arise. And although causes for fluctuations from time to time in strengths of muscles, bones and ligaments are still obscure, yet at least their existence should be clearly recognized and taken into account in treatment, as is not done often enough now.

Finally industrial accident cases present peculiarities of their own and accordingly deserve special notice.

An injured workman who is drawing compensation from an insurance company for his disability is in a different class as a rule from an injured individual who is suffering from a similar injury without compensation. Malingering tendencies in compensation cases are not so extremely rare, and there are many who are not malingerers who try naturally to make as good bargains as they can with insurance companies. These latter patients coöperate with their doctors, especially if physicians are furnished by the companies, in order to secure all possible benefits; but they will repudiate or minimize benefits of braces in the end frequently when final settlements are being ar-

rived at. Not all patients do this, and there are many varying degrees of the tendency exhibited, yet a sufficient number of cases do exist to influence attitudes of insurance adjusters toward the use of apparatus.

An industrial physician has therefore to be prepared for this additional difficulty, but by being forewarned he can avoid much trouble by a more critical study of his patients and their views before he prescribes supports, and by taking away apparatus entirely from certain patients in the later stages of their care when they begin to "lay down" on the insurance company.

There is a considerable proportion of our foreign born general laborers who do only rougher kinds of work with whom it is folly to fit elaborate or complicated appliances which they cannot use possibly with much benefit. On the other hand, it is advisable not infrequently to prescribe appliances of simple character with preventive ideas in mind.

If patients can be depended on, then belts for weak backs, ankle braces for fractured bones, et cetera, enable workmen to resume their active occupations more quickly than would be safe without such protection. There are justifications for the use of braces under these circumstances that do not exist under other conditions. A protective apparatus frequently is accomplishing its intended purpose, although its wearer, who does not understand its use, complains of the discomfort and says that it is no good. Discomfort of a slight degree that does not prevent a return to work is in reality a benefit if it also prevents undue prolongation of use of supports at terminations of disabilities when patients are lost sight of.

It must be admitted, however, there are wide differences in ways in which industrial accident cases are treated, depending on varying opinions of different insurance companies, since the control of treatments rests primarily with business men and not with physicians, the latter being encouraged to carry out only such medical procedures as are thought to fit best business interests.

Baking and massage constitute a form of treatment which is extensively used with industrial cases, and with great benefit in many instances. It has the advantage of being comparatively inexpensive, and it is relegated not uncommonly to non-medical assistants. Yet

any reliable method, however good it is, can be employed very disproportionately as seems to be the case with baking and massage.

Conscientious masseurs work over chronic cases day after day faithfully, making patients feel temporarily a little different during actual times of treatment and without doing recognizable harm. In reality, however, just a little too much is being done frequently to permit periods of freedom from outside disturbance that are so essential for quickest repair; and these patients get well in spite of their treatment rather than as the result of it. At other times, manipulations, baking and massage are persisted in with the best of intentions by non-medical assistants even when patients complain of actual pain and throbbing aches lasting unreasonably long after each treatment, and when it is quite obvious that more harm than good is being done. Disabilities are being prolonged when all that is needed for rapid recovery is less care.

A comparison of mechanical supports with baking and massage shows that apparatus is less likely to be used too much. Supports show their limitations very obviously, and their good features, though existent, are obscured; while baking and massage are apparently simple and frequently effective. Their drawbacks are less clearly recognized and less widely understood, and in consequence they are employed more often to useless, expensive degrees.

The writer has been guilty of fitting braces to industrial patients with unsatisfactory results more times than he likes to admit; and on account of some of the reasons which have been set forth; but fortunately there have been exceptionally good results in a very considerable number of instances after other methods have failed. And the transformation of very few cases which have been considered total permanent disabilities into useful wage-earners overbalances many unsatisfactory results and the cost of much discarded apparatus, so that the weight of opinion is still strongly in favor of use of braces in selected industrial accidents.

Future progress along industrial lines with brace making and fitting depends, therefore, apparently on increased caution in prescriptions by industrial physicians; secondly, on lessening the cost of apparatus to suit its frequently temporary usefulness, retaining effec-

tive fitting without elaborate finish that is desirable in apparatus for private patients possessing permanent disabilities; and lastly, on the education of insurance companies to the obscure advantages of medical supports. For they cannot be expected to recognize all merits of mechanical apparatus and its superiorities when these advantages are not fully remembered by the medical profession generally.

Braces may be uncomfortable, their wearers may condemn them, and they may have to be discarded soon; yet notwithstanding these objections they may be no more uncomfortable than a series of painful manipulative treatments which are cheerfully accepted because the latter are understood by patients. Braces may be more efficient than the latter, though braces are condemned, and they may be cheaper in the end, although they are discarded in apparently wasteful fashion. They justify themselves if patients are saved from single unrecognized additional injuries, and they have advantages in being less liable to overuse.

In conclusion, a few illustrative cases will help to emphasize the foregoing ideas.

1. A seventeen-year-old schoolboy developed soreness of his ankle joint gradually, and continued activity in athletics aggravated the condition to degrees demanding adhesive strapings and a plaster cast. The cast allowed complete subsidence of inflammation in a month. The synovitis of the ankle joint was coming back again, following removal of the cast, when the writer first saw the patient. Instead of returning to another cast a steel ankle brace was fitted. This was provided with a limited motion joint that prevented dorsal flexion of the foot beyond a right angle, and in consequence the irritated synovial lining was freed from harmful squeezing of the last few degrees of dorsal flexion. He improved steadily and uninterruptedly, walking naturally without discomfort, with his invisible apparatus, until he recovered completely.

2. A middle-aged insurance man fractured his fibula and strained ligaments about the ankle. After the bone had united there was a feeling of insecurity which prevented resumption of continued walking quickly. An ankle brace was fitted and he soon returned to his usual occupation wearing the brace about two months before he discarded it. He

felt confident with the brace on that he would not injure his ankle anew by any misstep.

3. A middle-aged man of average height, good muscular development, with sallow mildly autointoxicated appearance, an electrician by trade, developed chronic flatfoot of severe grade very gradually. He tried many varieties of shoes and plates, and had visited an orthopedic clinic at one of the large Boston hospitals, when he was finally seen by the writer and fitted with a pair of foot plates of the Whitman type. Directions were given him to wear them as much as he could. They made his feet very sore for a while, but he persevered, and gradually forced his feet back toward normal shape and restored muscle balance again in foot muscles. Hip pains, of which he complained, also disappeared entirely and after a number of months he was able to dispense with the plates. His comment on the treatment was that money couldn't pay him for the favorable transformation which had been made in his condition.

The point of interest about this common case lies in the selection of method of treatment. Forceful manipulation of his feet while he was anesthetized, followed by support of plaster casts for two or three weeks, with rest in bed, and terminating with limbering-up measures and plates for the feet could have been tried. Secondly, a series of fairly forceful manipulations and massage without anesthesia would have accomplished the same purpose, presumably, if they were persisted in long enough. The method which was selected was convenient, comparatively inexpensive, and permitted him to continue with his work. It was simple and efficient and preferable for these reasons.

4. A fifty-year-old mechanic was thrown out of an automobile and injured the lower cervical region of his spine. X-rays were repeatedly shown to be negative, and he had been allowed to go without any head support until a visible diffuse swelling appeared in the soft tissues at the back of the neck at its cervico-dorsal region. Weakness of arms was developing and there was a beginning of a dragging gait soon after the writer first saw the patient. A steel brace was fitted to support the head and neck and to immobilize the upper end of the spine completely. Leg symptoms promptly subsided and strength of arms increased for a time, but at the end of one year's time there



had appeared considerable irregular atrophy of neck and shoulder muscles. The hands also were still weak and have remained so.

He has improved in general health, walks as much as he desires and tinkers around in a machine shop a little, also does a few things about his home; but he has not been returned to regular labor. The brace is restricting and conspicuous, yet he cannot do without it long, and he is very glad to have it returned promptly whenever it is repaired.

5. A twenty-six-year-old man in average good health fractured his spine slightly at the dorso-lumbar region in a fall of twelve feet. He did not submit to an operation for the purpose of inlaying a bone graft at the injured region of the spine. Instead he continued working at odd jobs of light character from one month's time onward after his accident with the aid of a steel back brace. There was much discomfort at first but he persevered and in six months' time ceased to draw compensation from the company with which he was insured.

6. A heavy man, who was a little past middle age, a laborer, fell and ruptured the quadriceps extensor muscle just above the patella. A weak leg resulted, and he was considered an unfavorable risk for a surgical operation, accordingly he was considered a probable total permanent disability by the insurance company paying him compensation. An adjustable knee splint, which permitted fixation at any desired angle, or free motion as desired, enabled him to return to regular work and ultimately to dispense with the brace entirely a part of the time.

7. An Italian laborer injured his right humerus at the elbow, and extensive hypertrophic bony changes developed that could not be removed conveniently at operation. They limited the range of motion in the elbow joint both in flexion and extension, the extreme limits of flexion and extension being painful. A limited motion elbow brace was fitted which prevented these undesirable extremes of motion, and pain subsided enough to result in a serviceable arm with very useful range of motion.

8. A middle-aged man, in average good health, fractured both bones of his lower leg, and the tibia united so slowly by fibrous union

that an operation was done to refresh the surfaces of the poorly united fragments. There was a very feeble attempt at callus formation after the operation for several months until a steel and leather support was made for the leg, which also allowed limited motion only at the ankle. He was given more confidence by the brace to use the leg cautiously in weight-bearing, and the increased stimulus of the latter was sufficient to produce solid union in the poorly united fracture after surgery had delayed recovery at the first attempt.

### THE PRODUCT OF A UROLOGICAL CLINIC.

By WILLIAM C. QUINBY, M.D., BOSTON.

(Continued from page 426.)

#### STRICTURE OF URETER.

Woman, No. 6642, aged 32, married, 24-iv-17. Complaint: Attacks of pain in left lower abdomen since pelvic operation eleven years ago. Chronic pelvic adhesions. Question of stricture of ureter. Retroversion. X-ray showed possible enlargement of left kidney and dilatation of ureter. No operation. Patient discharged seven days after admission. Reentry: No. 7643, 5-xi-17. Pain has not been relieved by passage of ureteral bougies and vaginal tampons. At operation an intraligamentous ovarian cyst was removed. Many pelvic adhesions found. Impossible to identify ovaries or tubes. The uterus was not suspended. No complications. Patient was discharged seventeen days after operation. Reentry: No. 8453, 1-iv-18. Diagnosis same as previous entries. Pain has not been relieved. Separation of pelvic adhesions. Partial salpingectomy and oophorectomy. Ventral suspension of the uterus for retroversion. Long, hard, severe operation through dense adhesions. No complications. Patient was discharged on the seventeenth day after operation. 17-x-18. Urine sparkling and slightly alkaline. Uterus in good position. Cystoscopic examination showed marked trigonitis and slight hemorrhagic stippling about the ureteric orifices. Bladder not completely filled so shape was not determined. Patient complained of pains in left quadrant radiating down outer side of leg, and also of pain at end of micturition. R hyocyamus mixture. 7-viii-19. Slight recurrence of same symptoms. Urine clear and free from pus. General health excellent.

The diagnosis of stricture of the ureter in this case was never entirely clear. The difficulties sometimes encountered long after severe

pelvic inflammatory disease in woman are well illustrated.

#### TUBERCULOSIS OF THE KIDNEY.

1. Man, No. 5161, aged 25, single, 30-vii-16. Tuberculosis of kidney. Latent pulmonary tuberculosis. Left nephrectomy. Ureter much thickened. Proximal end transplanted beneath skin. Wound drained with iodoform gauze wick. Patient discharged nineteen days after operation. Reëtry: 25-x-16. Has had persisting sinus in flank. Remaining portion of ureter excised. Excellent convalescence. No further data.

2. Man, No. 5404, aged 29, married, 14-ix-16. Tuberculosis of kidney. Latent pulmonary tuberculosis. Right nephrectomy. No drainage. No complications. Patient died several months later, presumably of pulmonary disease.

3. Woman, No. 5873, aged 22, single, 9-xii-16. Preoperative diagnosis: Pyonephrosis. Post-operative diagnosis: Tuberculosis of kidney. Right nephrectomy. Kidney very adherent. Thickened ureter sewed under skin at lower angle of wound, which was drained. No complications. Wound healed on twentieth day. Reëtry: 20-ii-17. Tuberculosis of bladder with pain in region of remaining kidney. Investigation of kidney showed normal function with no evidence of tuberculosis. 18-xi-18. Has continued to visit Out-Door Department for treatment of bladder. Cystoscopy shows old puckered scar near region of right ureteric orifice. Bladder capacity somewhat diminished. Still has nocturia from three to five times. Is in excellent general health and has gained much weight. 26-iv-19. Patient has been working for the past two months. Feels very well. She urinates four to five times daily, and once to twice at night. She has gained ten pounds. Urine has a very slight haze. 21-viii-19. Patient has worked steadily and weighs 146 pounds. Says that she feels well. Urine is clear. Bladder holds 225 cc. without pain.

4. Woman, No. 6071, aged 26, married, 12-i-17. Tuberculosis of kidney and bladder. Severe infection with ulcerations prevented catheterization of either ureter. Exploration of left kidney. Double ureter discovered. Nephrectomy prevented because presence of right kidney not yet proved. Nephrectomy. Ureters unite into single tube at bifurcation of iliac artery. Ligated below this point. No complications. Discharged thirty-five days after first operation; fifteen days after second. Bladder only moderately relieved. Result: 27-v-18. Though under constant treatment in Out-Door Department, has not done at all well in regard to the bladder condition. It will hold only 25 cc. and on cystoscopy is seen to be almost entirely denuded of mucosa. Nocturia twenty

times. 29-xi-18. Though patient's general condition is excellent and she has gained much weight, the bladder has continued to be markedly intolerant and of small capacity.

5. Woman, No. 6402, aged 33, single, 9-iii-17. Tuberculosis of kidney and bladder. General condition poor. Nephrectomy. Ureter found badly diseased. Cut off as far down as could be reached and end left under skin. Complications: Urine drained through wound in flank by reflux from bladder. Severe evening pyrexia. In hospital seventy-five days. Result: 5-vi-18. Is feeling pretty well; appetite is good and has gained weight. Side is almost healed and now gives but little trouble.

6. Woman, No. 6423, aged 39, married, 14-iii-17. Complaint: Pain in the right side. Tuberculosis of kidney and bladder. Low total renal function. Right nephrectomy. Wound not drained. Ureter much thickened. Pig inoculated from other side also shows tuberculosis. No complications. Discharged on eighth day after operation. Reëtry: 22-v-17. Day after leaving hospital had a chill and pain in left chest. An abscess in wound was found and evacuated. Patient slowly going down hill. One month later showed marked acidosis. No phthalein output. Blood urea nitrogen = 112.4 milligrams. Discharged against advice in very critical condition, forty-seven days after entrance.

7. Woman, No. 6644, aged 40, single, 23-iv-17. Marked Pott's disease. Tuberculosis of kidneys and bladder. Very frequent painful urination. Condition too poor to justify operation. Result: Probably dead.

8. Woman, No. 6810, aged 44, widow, 31-v-17. Tuberculosis of kidney and bladder. Previous nephrectomy at Boston City Hospital. X-ray shows stone complicating process. Condition too poor to warrant operation. Treat cystitis. Result: Probably dead.

9. Man, No. 7553, aged 44, married, 19-x-17. Tuberculosis of kidney and bladder. Nephrectomy. Ureter dropped back. Wound not drained. Discharged healed on fourteenth day. Result: 25-v-18. Has gained weight and is doing very well indeed, though has some frequency. Has had no treatment of bladder. 30-xii-18. Still has some frequency, and urine occasionally contains sediment. Patient feels that his condition is not poor enough to submit to a course of treatment of bladder.

10. Woman, No. 7671, aged 42, married, 9-xi-17. Tuberculosis of kidney. Nephrectomy. Ureter much thickened and edematous. Kidney badly infected. Some soiling of wound which was drained. Discharged healed on the seventeenth day. Reëtry: 21-xii-17. Patient has a residual abscess in loin. Remaining ureter excised. xi-18. Has had a very slowly

healing wound. Has been given a course of tuberculin, and general health shows very marked improvement. 23-v-19. Wound is now closed for the first time since operation. Tuberculin continued at weekly intervals for three months longer.

Of the eight cases in this group for whom nephrectomy was done, two have died, one of pulmonary disease (Case 2), the other of renal insufficiency due to tuberculosis of the remaining kidney (Case 6). In two instances, the disease of the bladder prolonged recovery to a marked degree. The best treatment of the stump of the ureter is a matter about which there is still lack of agreement among surgeons. At present it seems inevitable that a fair percentage of the cases should show a residual abscess regardless of the manner of treating the ureter. It is probable that such abscesses are often due to infection of the perirenal tissues before operation has been attempted. But this is a point which needs investigation.

#### HYPERNEPHROMA.

1. Man, No. 5137, aged 56, single, 27-vii-16. Hematuria with retention. Impassable stricture of urethra. Tumor of right kidney. Operation 1. 28-vii-16. Suprapubic cystotomy for drainage of bladder. Operation 2. 2-viii-16. Nephrectomy for hypernephroma. Tumor had penetrated peritoneal cavity. Operation 3. 12-ix-16. Exploratory laparotomy for fistula of small bowel. Opening found in duodenum; impossible to suture. Operation 4. 15-ix-16. Excision of pylorus and gastroenterostomy. Death next day. Autopsy: Showed hypernephroma of right kidney; surgical wound for recent operation for removal of right kidney; extension of tumor into surrounding tissues; perforation of duodenum with drainage of duodenal contents through operative wound; extensive infection of wound.
2. Woman, No. 6857, aged 36, married, 9-vi-17. Mass in left side. Nephrectomy for hypernephroma. No evidence of penetration of tumor to capsule. No complications. Result: vi-18. Abdomen entirely normal on examination. Urine normal. Patient is thin and tired because of household duties. 25-xi-19. Husband reports that patient is very well and has gained ten pounds.
3. Woman, No. 6930, aged 57, married, 25-vi-17. Pain in left side of abdomen. Nephrectomy for hypernephroma. Complications: Much discharge from large drained wound with slight fever. Result: 1-vii-18. Condition is much improved. Occasional slight pain in region of operation. Bulge of muscles from interference with nerve supply. The urine is normal.
4. Man, No. 6996, aged 62, married, 6-vii-17. Smarting pain in the back near scapula. Slight fever. No urinary disturbance. Nephrectomy for hypernephroma. Perirenal fat infiltrated at upper pole. Steady decline and death in three weeks. Autopsy: Showed multiple hypernephroma metastases, and terminal bronchopneumonia.

#### VESICAL CALCULUS.

1. Man, No. 6016, aged 77, 4-i-17. Hypertrophy of prostate. Stone in bladder. Severe cystitis. Perineal prostatectomy. Pultaceous stone formation in base of bladder removed by gall bladder scoop. Complications: Severe cystitis with ammoniacal urine. Patient discharged twenty-nine days after operation. Reentry: 5-iv-17. Recurrence of stones in the bladder. Persisting cystitis. Suprapubic cystotomy for stones. No complications. Patient discharged eighteen days after operation. Reentry: 3-i-18. Still has very marked cystitis, causing much pain and great frequency of urination. This has been constantly treated, but the infection has not been much reduced. Cystoscope shows the difficulty to be due to diverticula. Suprapubic cystotomy and excision of diverticula. Inversion of pouches, followed by excision and suture. Bladder drained by suprapubic tube for one month, during which it was frequently washed out with antiseptics. No complications. Patient discharged twenty-two days after operation. Result: 1-iii-18. Patient has been much benefited by last operation. Since closure of suprapubic wound urination has been at normal intervals and painless. Decrease of pus in urine. General condition improved. 17-vii-18. Patient much better. Urinates without pain. Necessary to wash out bladder only once a week. 11-iv-19. Is again having frequency every two hours, day and night. About 60 cc. residuum of turbid urine. Bladder irrigation with silver nitrate and instillation of argyrol. Reentry: 1-ix-19. Cystoscope shows that another stone has formed. Suprapubic cystotomy with removal of vesical calculus. No complications. Patient discharged after nineteen days. On the 8-xi-19 reports he feels fine.
2. Man, No. 6503, aged 55, married, 29-iii-17. Stone in bladder; cystitis. Suprapubic cystotomy for stone. Contraction of bladder neck forcibly dilated. Complications: Slight infection at one end of incision. No pus or fever. Patient discharged twenty-three days after operation. Result: 17-vii-18. Patient reports, saying that he feels fine and is working daily. Has no symptoms. Urine is clear with a few shreds.
3. Man, No. 6564, aged 74, 11-vi-17. Hyper-

trophy of prostate. Stone in bladder. Angina pectoris. Suprapubic cystotomy. Removal of stone. The stone was partially impacted in post-trigonal pouch. Sinus healed on seventeenth day. It was not deemed wise to attack the prostate on account of patient's precarious cardiac condition. Complications: Occasional twinge of anginoid character. Patient was discharged on the nineteenth day after operation. Result: 17-vii-18. Since leaving the hospital the patient's career has been stormy. He fell and broke his hip; burned himself with hot water bag; had severe hemorrhage from a subsequent gastric ulcer, and had to be transfused. Bladder has behaved only fairly well, and during last month patient complained of much nocturnal frequency and pain for which I injected 10% argyrol three times at weekly intervals, with considerable relief. viii-19. Condition remains about the same.

4. Man, No. 6907, aged 78, 20-vi-17. Stone in bladder. Cystitis. Prostatic enlargement. Suprapubic cystotomy for stone. Patient was a physician and objected strongly to having a prostatectomy. Complications: Slow healing of suprapubic sinus due to obstruction at bladder neck. One stitch abscess. Patient discharged on twenty-ninth day after operation. Result: 10-xii-17. Not so much urgency or frequency. Urine still cloudy. ix-18. Has had a severe attack of herpes zoster. Except for the element of infection which necessitates frequent lavage of bladder, does not have many urinary difficulties.

5. Man, No. 7605, aged 52, 30-x-17. Stone in bladder. Possible communication between urethra and rectum. About twenty-five years before entrance had probable prostatic abscess which resulted in a rectourethral fistula. Suprapubic cystotomy. Stone was removed from chronic inflammatory pouch in prostatic region. Complications: Patient surgically normal but mentally confused for two weeks. Discharged on twenty-sixth day after operation. Result: 1-i-18. Satisfactory convalescence. Still some infection in the bladder and there is some frequency of urination, but no pain. He has gained markedly in weight and strength and is now working. Occasionally once a week or once in ten days there is a very slight amount of air passed by urethra, although on no occasion when catheterizing the bladder for lavage have I been able to demonstrate that it contains air. It seems, therefore, that a communication with the rectum does exist, although this must be very small, giving passage to occasional air into the urinary tract. However, according to patient, there is never any urine passed by rectum, although in the past this did occur. v-19. Patient is in excellent general health, though there is a marked chronic cystitis present. No longer passes air by urethra.

6. Woman, No. 6358, married, 3-iii-17. Pain

over symphysis made worse by walking or jarring. Stone in bladder. Cystitis. Has had two children, the first by Caesarean section; the second by instrumental delivery with severe tears which were repaired at the time. Dilatation of sphincter and extraction of stone after crushing. Stone found attached to summit of bladder, doubtless having formed on a misplaced ligature at previous operation. Discharge on eighteenth day with considerable incontinence. Reentry: 4-iv-17. Incontinence of urine. Two operations on bladder neck at which tissues were infolded and built up by suture in region of sphincter failed to control incontinence. Discharged after twenty-one days still incontinent. Reentry: 8-vii-18. Incontinence of urine. Suprapubic cystotomy. Excision of wedge at bladder outlet followed by submucous suture of whole region. Dissection of urethra with suture of it after torsion through 180 degrees. Patient continent at discharge. Result: 11-xii-18. In many respects is much better. When at home can hold water about an hour and at night does not wet bed. When she goes out, however, she has still some incontinence.

Case 1 is an example of the marked tendency to the formation of stone shown by some chronically infected bladders. Undoubtedly the prostate should have been removed by the suprapubic route at the first operation. This would have permitted adequate treatment of the diverticula. At the fourth operation marked trabeculation made it quite unsafe to attempt removal of the stone by litholapaxy and necessitated opening the bladder once more.

It was an error of surgical judgment to dilate the sphincter of the bladder in Case 6. The resulting incontinence has never been entirely remedied.

#### CYSTITIS.

1. Man, No. 5334, aged 52, married, 3-ix-16. Cystitis. No operation. The renal pelvis and prostate were found normal. The floor of the bladder was infected and showed some ulceration. No cause for this was determined. Bladder antiseptics gave much improvement. Patient discharged one month after entrance. Result: 26-v-19. Patient reports in person and states that he has had inflammatory rheumatism and had his teeth extracted. He now has a pain which shoots up his spine. He has occasional burning on urination, but frequency has not increased, and urine is clear, with no shreds. Movements of lumbar spine are limited. Lumbar lordosis decreased. Prostate normal in size and consistency.

2. Man, No. 5973, aged 35, single, 27-xii-16. Old fracture second lumbar vertebra. Reten-

tion of urine. Cystitis. No operation; cystitis treated locally. Patient discharged after twenty-six days in hospital. Result: 2-vii-18. Has made steady improvement. Still has slight difficulty with control of sphincter, and some cystitis.

3. Woman, No. 6535, aged 57, single, 2-iv-17. Chronic cystitis. Patient was treated by lavage, and discharged after twenty-one days. Result: 9-vii-18. Patient is no better. Cystoscope shows rather negative bladder picture except for heaping up of mucosa on left side of base. Bladder capacity is markedly decreased. 15-v-19. Patient has frequency in spite of fact that urine is nearly sterile. Has had much trouble during winter, and recently has had infected antrum drained.

4. Woman, No. 7624, aged 75, 2-xi-17. Acute cystitis and atony of bladder. Before entrance to hospital had had a slight stroke but no marked paralysis. Marked gradual improvement of bladder by instillation of 10% argyrol. Result: 22-vii-18. Patient reports by letter that she has not needed medical care since leaving hospital. Her legs are getting strong and she has no difficulty on urination.

5. Woman, No. 7255, aged 13, single, 21-viii-17. Cystitis. Cystoscopy showed probable pyelitis. Patient improved under local treatment of bladder, and was discharged after seven days. Result: 1-17. Patient in good health. 23-x-19. Friend reports by letter that patient has since been operated on twice for "tumor of bladder," without relief. She tried seventeen treatments of osteopathy with alleged cure.

6. Man No. 5347, aged 78, married, 6-ix-17. Cystitis. Hypertrophied trigone. Paralysis agitans. Shadow in x-ray plate led to exploration of kidney, but no stone was present. For marked dysuria suprapubic cystotomy was done followed by incision of trigone. The prostate was not enlarged though bladder showed marked trabeculation. No complications except those of cystitis. Patient discharged on fifty-fifth day. Result: 13-v-18. Patient doing fairly well. Bladder still shows 150-175 cc. turbid residual. By weekly lavage of bladder he keeps comfortable. Tremor of body and extremities is slowly increasing. 4-xii-19. Patient has been having bladder irrigated with AgNo<sub>3</sub> once weekly.

The results of treatment in this class of case is often unsatisfactory because infection of the bladder is a secondary affair in the vast majority of instances. The diagnosis of cystitis is, therefore, an admission of inability on the part of the examining surgeon to find the primary cause. In some instances it is probable that

this no longer exists at the time of examination. In cases such as Nos. 2, 4, and 6, the cystitis is due to the involvement of the bladder by disease of the central nervous system. Its complete cure in such instances can hardly be expected.

#### DIVERTICULUM.

1. Man, No. 7034, aged 54, 14-vii-17. Prostatic obstruction; diverticulum; stone in bladder, cystitis. Suprapubic prostatectomy: removal of stone; inversion of diverticulum. Complications: Epididymitis on third day. Bladder healed on twenty-second day. Patient was discharged on twenty-seventh day after operation. Result: 20-vii-18. Patient is free from symptoms. Urine contains a few shreds. Considers himself much improved by operation.

2. Man, No. 7210, aged 58, married, 14-viii-17. Prostatic obstruction (median bar). Diverticulum. Suprapubic cystotomy. Transversal partial prostatectomy with excision of diverticulum. Primary drainage of bladder for huge residual, 1800 cc. Diverticulum on right as large as bladder itself. Ureter not involved. No complications. Complete healing on twenty-first day after operation. Patient discharged one month after entrance. Result: vi-18. Patient well except for slight frequency and a little pus in urine. 29-xi-18. Patient well and urine clear. 30-iii-19. Patient well and without symptoms.

3. Man, No. 5128, aged 60, single, 25-vii-16. Severe cystitis from diverticulum of bladder. Symptoms present for about twenty years. Prostate normal. Kidneys show somewhat diminished function and slight infection. Excision of diverticulum. Ureter not involved. Complications: Auricular tachycardia and local sepsis complicated convalescence. Temperature was not normal until after the fortieth day. Patient was discharged on the seventy-third day. Reentry: 23-iii-17. Ventral hernia due to operation. Repaired without complications. Was discharged on fifteenth day. 9-i-19. Patient is doing very well. There is still a slight soreness about wound for which he wears a support. The bladder still shows a chronic infection but he is free from symptoms.

#### FOREIGN BODY IN BLADDER.

Man, No. 6703, aged 65, single, 8-v-17. Suprapubic prostatectomy before entrance to this hospital. Cystoscopy showed a foreign body in bladder, and a severe cystitis. Suprapubic cystotomy with removal of foreign body which was a piece of catheter. Operation was complicated by contracted bladder and scar of previous operation. Bladder intensely infected. Complications: Slow closure of wound because of local infection. Temperature normal after



fourth day. Patient discharged on the twenty-fourth day after operation with excellent functional result. Result: 24-vii-18. General health excellent although patient is still slightly incontinent. Urine slightly turbid. 18-x-18. Patient is doing well and has no complaints.

#### INCONTINENCE OF URINE.

Woman, No. 6696, aged 50, single, 7-v-17. Relaxed sphincter of bladder. Plastic operation at neck of bladder. No complications. Patient was discharged twelve days after operation. Discharge note: 24-v-17. The patient left the hospital today in good condition. She is having no difficulty with micturition. Vaginal examination shows perineal floor of good strength. No cystocele, or rectocele. Patient has been up and around the ward for two to three days. Temperature, pulse, and respiration normal. No further data.

#### CANCER OF THE BLADDER.

1. Man, No. 6805, aged 41, 29-v-17. Cancer of the bladder. 1. Suprapubic cystotomy. 2. Transplantation of left ureter into intestine. Complications. Steady decline with death on the fourteenth day after second operation. Signs of peritonitis. Autopsy: Showed suture leaked from too much tension.

2. Man, No. 6850, aged 52, widower, 12-vi-17. Cancer of large intestine communicating with bladder. Condition determined both by cystoscope and proctoscope. No operation. Patient discharged after ten days. Reentry: 26-vi-17. Formation of artificial anus. Hard mass occupying region at junction of sigmoid and rectum densely adherent to posterior wall of bladder. No evidence of constriction of bowel. Bowel was opened two days after operation. Complications: One attack of severe diarrhea from too active catharsis. Result: 7-viii-18. Patient reports that he has a small abscess at anal margin draining into rectum. It has emptied itself several times, giving spontaneous relief. 1. Suppositories. Reentry: 30-i-19. Until eleven days ago patient has been able to work. Since then has failed rapidly, and has had chills, fever, and vomiting. A large, cancerous abscess surrounding rectum was drained. Died 5-ii-19.

2. Man, No. 7326, aged 60, married, 5-ix-17. Carcinoma of the bladder. Obstructing prostate. Suprapubic cystotomy. Only a palliative operation was attempted. A hard, indurated, ulcerated mass on left side of bladder was found to involve the sphincter. Small median lobe enlargement. Patient was discharged twenty-fifth day after operation. Result: 8-x-17. Wound healed. Feels no better than before operation. 31-x-17. Has pain in back and left side. No further data.

4. Man, No. 7779, aged 47, married, 2-xii-17. Cancer of the bladder. Suprapubic cystotomy for exploration and permanent drainage. Removal impossible. Patient was discharged on the twenty-second day. Result: Patient died at home 19-xii-18. During the year following artificial opening in bladder patient has been quite free from pain in this region. Lately he has had much pain in back and has lost flesh rapidly, due to metastases.

#### PAPILLOMA OF BLADDER.

1. Man, No. 5356, aged 86, married, 7-ix-16. Papilloma of bladder. Fulguration. Patient's condition apparently normal. Sudden death during night of sixteenth day. No autopsy.

2. Man, No. 5606, aged 55, married, 19-x-16. Complaint: Pain in the side, and bloody urine. Papilloma of bladder. Stones in kidney with infection. Suprapubic cystotomy and cauterization of tumor. Nephrectomy. Dense adhesions were found around the kidney. Complications: Localized pleurisy for four days. Patient was discharged on the fiftieth day after operation. Results: 22-i-18. Patient feels quite well, although he complains of frequency and burning after micturition. 6-x-19. Has been well till three days ago, when he had slight hematuria. Cystoscope shows recurrence of papilloma; fulgurated. 26-xi-19. No further trouble. The tumor has been destroyed.

3. Woman, No. 5772, aged 60, 21-xi-16. Papilloma of bladder. Cystitis. Treated by fulguration. Patient was discharged to the Out-Door Department after twelve days, to continue treatment. Reentry: 26-xii-16. Suprapubic cystotomy. Excision of papilloma. Fulguration failed to control growth, and the cystitis became very marked. Suprapubic wound did not heal until the twenty-sixth day on account of mild local infection. Had considerable difficulty with walking, gradually growing normal during the last ten days. Result: 22-vii-18. Letter from patient states that she has been free from hemorrhages and has been working for the past year. She is not as strong as formerly, but feels like a new woman, and although she gets tired easily her courage is good and she intends to live to a good old age.

4. Man, No. 5698, aged 51, 8-xi-16. Malignant papilloma of bladder. Severe cystitis. 1. Suprapubic cystotomy. Excision of tumor with cautery. 2. Resection of neck of bladder. At first operation a tumor was found just inside meatus on left side of trigone. Fistula did not heal; fever and slight local sepsis. The second operation was followed by normal convalescence. The patient was discharged on the forty-ninth day after the second operation, with bladder completely healed, but with total incontinence of urine. Result: The patient re-

mained at home after leaving hospital for about two months. Then he entered the Holy Ghost Hospital for one week. He was discharged from there and remained at home until he died 13-iv-17.

5. Man, No. 6694, aged 52, 5-v-17. Prostatic hypertrophy. Malignant papilloma of bladder. Perineal prostatectomy; excision of papilloma of bladder. Unsuspected tumor was found arising from the superior margin of internal meatus. Complications: Chill and vomiting on the third day with slight evidence of renal impairment. Sinus healed on the twelfth day. The patient was discharged on the twenty-second day after operation. Reentry: 19-vii-17. Acute epididymitis accompanied by a good deal of pain in the cord. Infection of bladder persists and is hard to control on account of great pain on passing catheter. Reentry: 20-xi-17. Recurrent cancer of the bladder. Resection of neck of bladder. Operation the same as for total prostatectomy. Slow, hard convalescence with considerable pain coming in spasms in region of the neck of bladder. Patient was discharged on the twenty-eighth day after operation. Result: 15-iii-18. Patient has not got back his courage since last operation. He has been entirely unable to accommodate himself to a urinal, which is necessary during the day as well as night. Suprapubic palpation shows definite recurrence. He has adopted Christian Science. 17-vi-18. Patient died about a week ago, after a period of unconsciousness lasting for six days, during which there was a diffuse purulent discharge from the nasopharynx. There was marked evidence of local recurrence of the growth as well as a foul cystitis.

6. Man, No. 6725, aged 56, married, 12-v-17. Malignant papilloma of bladder. Excision of papilloma. Cauterization. The tumor was cut off and the pedicle cauterized. Bladder was sponged out with alcohol. Complications: Fever for six days. Patient rather slow to gain strength. Discharged twenty-eight days after operation. Result: 17-i-18. No further trouble. Urine clear. Cystoscope shows no recurrence. 24-x-19. No trouble since discharge. No bleeding. Cystoscopy shows no recurrence. Slight cystitis still present causing no symptoms.

Such cases as these illustrate our present helplessness in the face of malignant disease of the bladder.

(To be continued.)

BEQUEST TO NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN.—The sum of \$20,000 was bequeathed to the New England Hospital for Women and Children in the will of the late Mr. George Augustus Goddard.

## Book Reviews.

*Anatomy of the Peripheral Nerves.* By A. MELVILLE PATERSON, M.D., F.R.C.S. London: Henry Frowde, Oxford University Press; Hodder & Stoughton, Warwick Square, E. C. 1919.

A great deal of excellent material for the orthopedic student or surgeon is contained in this book. The author has briefly outlined his subject in four chapters and supplemented the text with sixty-four splendid illustrations. The main topics of discussion are: The Anatomy of the Peripheral Nerves; Distribution of the Spinal Nerves; The Sympathetic System and the Cranial Nerves. Because of the skill which has been required in war surgery in military hospitals, a more precise and accurate knowledge of the anatomy of the peripheral nerves is required from the orthopedist. As a reference book for the experienced man and as a textbook for students, this volume should prove especially helpful because it does not discuss the subject at too great length, but covers the ground systematically, clearly and concisely.

*A Textbook of Pathology.* Eleventh Edition. By FRANCIS DELAFIELD, M.D., LL.D., and T. MITCHELL PRUDEN, M.D., LL.D. New York: William Wood & Co. 1919.

The eleventh edition of this well-known standard textbook of pathological anatomy is now ready for publication. The text has been largely rewritten and is illustrated by fifteen full-page plates and eight hundred and nine in black and colors. The subject matter is arranged in three parts: Part I deals with general pathology, and Part II deals with special pathology. Part III explains carefully the method of making post-mortem examinations and the methods of preserving and examining pathological tissues. Bearing in mind the fact that the book is to be used as a textbook and as a reference book by teacher and student as well, the material contained represents, "not matters still under active discussion, but those upon which a general agreement has been reached by the foremost investigators on the subject." For the student who wishes to consult further on the subjects discussed in these chapters, the references to many monographs will be found very helpful. In view of these recent revisions and additions to previous editions, the eleventh edition of this book should prove of increased usefulness.

## THE BOSTON Medical and Surgical Journal

Established in 1812

An independently owned Journal of Medicine and Surgery, published weekly under the direction of the Editors and an Advisory Committee, by the BOSTON MEDICAL AND SURGICAL JOURNAL SOCIETY, INC.

THURSDAY, MAY 13, 1920

## EDITORS

ROBERT M. GREEN, M.D., *Editor-in-Chief and Manager*  
GEORGE G. SMITH, M.D., *Assistant Editor*  
WALTER L. BURRAGE, M.D., *For The Massachusetts Medical Society*

## ADVISORY BOARD

EDWARD C. STREETER, M.D., *Boston, Chairman*  
WALTER P. BOWERS, M.D., *Clinton*  
WALTER B. CANNON, M.D., *Cambridge*  
HARVEY CURBISH, M.D., *Brookline*  
HOMER GAGE, M.D., *Worcester*  
REID HUNT, M.D., *Boston*  
LYMAN A. JONES, M.D., *Swampscott*  
ROGER L. LEE, M.D., *Cambridge*  
ROBERT B. OSGOOD, M.D., *Boston*  
MILTON J. ROSENBAUM, M.D., *Brookline*  
ALFRED WORCESTER, M.D., *Waltham*

SUBSCRIPTION TERMS: \$5.00 per year, in advance, postage paid for the United States, \$5.50 per year for all foreign countries belonging to the Postal Union.

An editor will be in the editorial office daily, except Sunday, from twelve to one p.m.

Papers for publication, and all other communications for the Editorial Department, should be addressed to the Editor, 126 Massachusetts Ave., Boston 17. Notices and other material for the editorial pages must be received not later than noon on the Saturday preceding the date of publication. Orders for reprints must be returned in writing to the printer with the galley proof of papers. The Journal will furnish free to the author, upon his written request, one hundred eight-page reprints without covers, or the equivalent in pages in the case of articles of greater length. The Journal does not hold itself responsible for any opinions or sentiments advanced by any contributor in any article published in its columns.

All letters containing business communications, or referring to the publication, subscription or advertising department of the BOSTON MEDICAL AND SURGICAL JOURNAL should be addressed to

BOSTON MEDICAL AND SURGICAL JOURNAL  
126 Massachusetts Ave., Cor. Boylston St., Boston 17, Massachusetts

### LEGISLATION ON MEDICAL MATTERS.

THE report of the Joint Committee on Legislation published in last week's issue of the JOURNAL, is discouraging to those who hoped for progressive action on the part of the Legislature this year. It is discouraging to realize how little influence, except in a negative way, the medical profession exert through the Joint Committee. While no backward step has been taken, the record is one of complete failure to gain any step forward.

Public health today is recognized as a matter of greater importance and of greater popular concern than ever before. But knowledge on matters of public health is not yet sufficiently widespread to create the overwhelming public sentiment which will compel legislative action along definite lines. It is interesting to note that in general the Committee on Public Health of the Legislature is brought to favor measures advocated by the Joint Committee of the State Medical Societies. This happened in the cases of vaccination and of physical training in the schools, and in the choice between the bills

proposed for maternity aid. It did not happen in the more strictly technical matter of pre-medical educational requirements, brought up this year for the first time.

The Legislators, before whom a medical matter can be fully presented, will in general follow the desires of the medical profession. The problem is to reach and influence, through a full knowledge of the truth, those members of the Legislature not on the Committee on Public Health or not particularly interested in matters of public health.

The antagonism of those who oppose legislation of a progressive character on medical subjects need not be feared. It is made up of many elements having nothing in common except opposition to medical progress, and a keen interest in seeing to it that their views reach every member of the Legislature. What the medical profession need to fear is their own lack of energy and initiative in bringing home to the public and through the public to the Legislature a full knowledge of the facts of medical science which are of public concern.

This cannot be done by a paid lobby. It cannot be done by any committee. It must be done by the work of every individual member of the medical profession. Public lectures, publicity agents, society resolutions, work by committees may stimulate and direct interest, but the work must be completed by the individual physician in his own community. As soon as each physician knows clearly enough to explain to the public just what vaccination has accomplished the Legislature will act.

The same thing is true of other matters. If as many doctors as lawyers could be members of the Legislature, action would follow, but from the nature of their work, physicians can rarely become legislators. Until medical matters assume a very much greater relative importance than they now have, it is idle to think of electing or defeating candidates for office because of their votes on medical questions. Elections will be determined by other considerations.

If we hope to influence legislation we must inform ourselves more fully and diffuse our views more widely. We must be sure that our Joint Committee is always wisely chosen and that its activities shall be constant and widespread rather than spasmodic and limited. The JOURNAL pledges itself to greater activity in the future in what aid it may render.

## HISTORY OF THE STATE HEALTH DEPARTMENT OF MASSACHUSETTS.

IN commemoration of the founding of the State Board of Health of Massachusetts fifty years ago, a special issue of *The Commonwealth* has been devoted chiefly to a brief summary of the work of the State Department of Health since its establishment in 1869 and of the State Department of Health to 1919. Twenty years after Lemuel Shattuck and his associates had made a report to the Legislature pointing out the need of a State Board of Health, the first health department in the country was founded in Massachusetts. It is interesting to observe how many of our ideas were embodied in the recommendations of the Shattuck committee: the establishment of a central board of health to have charge of the general execution of the health laws of the State, the establishment of local boards of health, a census of the people, systematic registration of births, marriages and deaths, investigations into the causation of disease, and public health education.

The State Board of Health of Massachusetts began its work in 1869 under a charter of the broadest possible scope, maintaining an independent existence for ten years. In 1879, three departments, those of health, lunacy, and charity, became organized as one board; but again in 1886, the Board of Health resumed its separate identity by an act of Legislature, to remain unchanged until 1914, when the Board became a department, with a Commissioner in charge, aided by an advisory Public Health Council.

The various activities of the State Department of Health have been described by those present in charge of its respective divisions. Among the first of the problems to be considered were those pertaining to water supply, drainage and sewage. Investigations and reports were made of the disposition of the sewage of towns and cities, of the sanitary effects of draining it into the waters of the Commonwealth, and of the joint use of the water courses for sewers and as sources of supply for domestic use. The Board employed engineers and chemists to assist in this work. In 1884, the Massachusetts Drainage Commission was organized to consider various questions of water supply, drainage, and sewage; this commission made a number of recommendations

which were enacted into legislation in 1886 and placed in the hands of the new Board of Health created in that year. A permanent engineering organization was created, supplemented with chemical laboratories. In 1885, there were established at the Massachusetts Institute of Technology laboratories for the examination of water and sewage, and in 1887, an experiment station was established at Lawrence for investigations in regard to the purification of sewage, trades waste, the treatment and filtration of water, and other subjects of similar nature. The Institute laboratories were removed to the State House in 1896.

The duties now performed by the Division of Communicable Diseases were largely cared for, prior to the reorganization in 1914, by the secretary of the Board, with the assistance of the State Inspectors of Health. These inspectors, at first sixteen in number, were appointed in 1907, and devoted only part of their time to the public health work. Their duties varied widely, from the inspection of factories, now delegated to the State Board of Labor and Industries, to the ever-changing problems of the local Board of Health. In 1912, the districts of the State were changed, and the number of officers reduced to twelve. In 1914, a further change in districts and reduction of men to eight was made. The men were placed upon a full-time basis, and are required by statute to devote all their time to public health work. When the plan of reorganization was effected, a separate division was created, to be known as the Communicable Disease Division, charged with the specific function of reducing the incidence of communicable disease. Efforts have been directed persistently against tuberculosis, typhoid, pneumonia, diphtheria, venereal disease, measles, scarlet fever, and whooping cough.

The organization of the Division of Communicable Diseases consists of a director, epidemiologist and clerical force, a subdivision of venereal diseases with a chief and staff, a diagnostic laboratory, and a field force of eight District Health Officers and eight nursing assistants. In addition to his supervision of reportable diseases the epidemiologist also conducts special investigations of scientific nature. The policy of aiding local authorities in their investigation of local undue prevalence of reportable diseases has proved of great service

and value. Surveys of cities and towns are made upon request or if need arises. The activities of the District Health Officers, assisted by local boards of health, are reducing to a minimum the possibility of extensive undetected outbreaks of disease. In the care of venereal diseases, the division not only provides for the diagnosis of gonorrhea and syphilis, but also, through the distribution of arsphenamine and the operation of subsidized clinics, offers free treatment to the people. Educational work has been conducted by means of lectures, motion pictures, slides, and pamphlets; and physicians, dentists, druggists, and manufacturing concerns have coöperated in promoting measures for the prevention of venereal disease. By means of the diagnostic laboratory, examinations of the highest scientific value are made, and real preventives are offered against communicable disease, typhoid, paratyphoid, diphtheria, and smallpox.

The work of the Division of Food and Drugs began with the passage of the first food and drug law in Massachusetts in 1882. Two analysts were appointed to collect and examine samples of food and drugs. There have been appointed additional analysts since that time and appropriations for the work have been increased each year. After the reorganization of the State Board of Health, the Food and Drug Division was created and the Food and Drug Laboratory, the Food and Drug Inspectors and the Department of Dairy, Cold Storage and Slaughtering Inspection were consolidated. About ten thousand samples, a large part of them milk, are examined annually; about three hundred cases are prosecuted each year. Of recent years the number of prosecutions for the sale of decomposed foodstuffs has increased, not because of any increased sale of decomposed food, but because the research work done by the Department and others has resulted in greater accuracy in detecting by chemical methods such decomposed material. In 1916, this division undertook an investigation to manufacture salvarsan, a drug which was practically exhausted in this country by the war; a small factory has been established and there have been eighteen thousand doses of this article, named arsphenamine, made by the division and distributed by the Department.

The activities of the Division of Biologic Laboratories were begun in 1894 by the establishment by Dr. H. P. Walcott of a laboratory

for the production and free distribution of diphtheria antitoxin. Dr. J. L. Goodale started the preparation of antitoxic serum in a laboratory in the State House and some serum was distributed in the spring of 1895. At that time a number of laboratory rooms were equipped at the Bussey Institution and the work was carried on by Dr. Theobald Smith. With the increasing demand for serum, the Legislature, in 1903, passed a bill authorizing the State Board of Health to procure and distribute vaccine lymph. A new building for the preparation of diphtheria antitoxin and vaccine virus was completed in 1904 by the corporation of Harvard University on a portion of the land of the Bussey Institution. In 1914, the Antitoxin and Vaccine Laboratory was made a part of the Division of Biologic Laboratories, with Dr. M. J. Rosenau as director of the division. The division includes also the Wassermann Laboratory, which was established in Boston in June, 1915. From June 1, 1915, to August 1, 1919, it tested 108,798 specimens by the Wassermann reaction; the work has increased from the rate of thirteen thousand specimens per year during the first six months to over thirty thousand specimens per year at the present time. The Laboratory has taken over also the diagnostic work for the Department of Animal Industry and has tested over four thousand specimens, chiefly for rabies and glanders. The Laboratory has conducted also experimental studies of the complement fixation test for tuberculosis and of the gonococcus test. A standardized method of performing the Wassermann reaction has been established by the Laboratory and adopted by most of the large laboratories throughout the State. The Division of Biologic Laboratories concerns itself with the diagnosis, treatment, and suppression of some of the most important communicable diseases, such as diphtheria, syphilis, gonorrhea, tuberculosis, pneumonia, and meningitis.

The Division of Hygiene was organized within the Department of Health in the spring of 1915, primarily for the purpose of reducing infant mortality and promoting child hygiene. The work has been carried out with gratifying results. A public health nurse was appointed as a health instructor to travel throughout the State, arranging health weeks and stimulating interest in the local communities on the subject of child conservation. Other nurses were appointed as the work increased, and a child



welfare exhibit was arranged to display various phases of child hygiene. During the past year there were employed, temporarily, at the time of fairs, at which the child welfare exhibit was displayed, a physician skilled in pediatrics to weigh, measure, and examine children, and two dental hygienists to advise parents and children in matters of dental hygiene. Mothers have been assisted further by a series of prenatal and postnatal letters setting forth some of the most essential facts about child conservation. In cooperation with the State Board of Education, the subject of child welfare was outlined both for teachers in vocational schools and for young women and mothers. During the war, a child conservation committee was formed, including pediatricians and obstetricians, a nurse, and others representing special phases of child conservation work. A group of eight nurses was employed by this committee to undertake the survey of different cities and towns for the purpose of determining what facilities existed for the conservation of child life. Through the Women's Council of National Defense and the help of local committees, a child weighing and measuring campaign was conducted in Massachusetts; this campaign gave publicity to child welfare problems, and aroused among parents a greater and more intelligent interest in the health of their children.

The present organization of the Division of Hygiene consists of a Director, with a clerical force, a subdivision of public health nursing, including a chief and four nurse health instructors, a health instructor on foods, a supervisor of mouth hygiene, and a health instructor in charge of exhibits in the field and of drafting. Its chief function is educational, and its major activity, child conservation. The next step which seems necessary in the future development of child welfare activities is the formation of advisory clinics for children to which parents can bring apparently healthy children for examination and advice; these clinics are needed particularly in the rural parts of the State. Another step of vital importance is the extension of public health nursing to every community in the State. Through the formation of health centers throughout Massachusetts, people may learn how to keep well by means of the examinations, instruction and advice which it is the purpose of the Division to make available to everyone in the State.

The development of the State Health Department of Massachusetts during the past fifty years has gone far in the attainment of the ends outlined by its founders; its new departures and increasing activities set for the future ideals which will promote still further the conditions of health for which we are striving in Massachusetts.

#### THE PHILIPPINE HEALTH SERVICE.

We have just received the Report of the Philippine Health Service for the year ending December 31, 1918. The year was a particularly disastrous one from the standpoint of epidemiology: never in its history, excepting, perhaps, during the years of the cholera epidemics in 1902 and 1903, have the resources of the Health Service been taxed so heavily. For this reason, although all the usual activities of the work were carried on throughout the year, few permanent sanitary improvements could be effected. Influenza and smallpox proved to be the most serious of the epidemiological problems during the year. From influenza alone there occurred about 85,000 deaths. The disease appeared first in a mild form, with a low mortality; but the second epidemic wave which swept over the whole Archipelago from Apariti to Sulu from the latter part of September to the end of the year caused a mortality of about 1.8 per cent. Most of the deaths were due to respiratory, cardiac, and renal complications.

Smallpox was present during the year in epidemic form. It is significant to note that while smallpox was reported during 1916 and 1917 from the provinces of Samar and Leyte and from Davao, Mindanao, the city of Manila and the rest of the provinces have enjoyed immunity from smallpox since the general vaccination of 1905 and 1906. The recent increase in cases of varioloid indicates that the immunity conferred to the population by the previous general vaccination has begun to wane. A striking feature of the outbreak was the preponderance of children among those attacked. In Manila, 72 per cent. of the patients were under 15 years of age and 85.9 per cent. were in children of from fifteen days old to and including ten years of age, the remaining 14.6 per cent. including all ages from 11 years up. Approximately the same percent-

ages for age groups obtained in the provinces. The smallpox situation, while grave, was never out of control. Emergency hospitals were established where needed, as rapidly as possible, and they served to reduce the mortality and to retard the spread of the disease. Vaccination was pushed vigorously by all agencies concerned—insular, provincial, and municipal.

Among other communicable diseases, cholera was one of the most insidious. It was present throughout the year in sporadic and epidemic form in Manila and in thirty-one provinces, having a total of 8,983 cases and 6,340 deaths. The cholera problem in the Philippines bears many points of resemblance with the typhoid problem in the United States, in that in either country, either disease has become endemic and has never been eradicated, although always held in check. The typhoid outbreaks in America are of the same general characteristics as those of cholera outbreaks in the Islands, from the standpoint of epidemiology. The total eradication of cholera from the Philippines is a possibility for the future, but at the present time the most that can be hoped for is the control of outbreaks of the disease and the reduction to a minimum of infection incidence.

There were registered from the provinces 3,817 deaths from typhoid fever, compared with 2,144 during 1917. The incidence rate increased 79.46 per cent. in 1918 over that of the preceding year. The record in the city of Manila, however, was better, due probably to more thorough and accurate reporting of cases and a consequent improvement in home isolation and hospitalization, in the prevention of contact infection, and in precautions taken in regard to food and milk. In the case of dysentery, also, the total number of deaths reported from the provinces showed an increase, while the number decreased in the city of Manila. Forty-five cases of diphtheria and fifteen deaths in Manila were found positive from a clinical standpoint. Two epidemiological points in connection with this outbreak remain as yet unsolved: (1) The high mortality obtaining both in positive and negative cases, even with the administration of curative doses of diphtheria antitoxin, and (2) the participation of other non-specific factors in the causation of the disease. Tuberculosis seems to be increasing every year. During 1918 there were more deaths from this cause

than from cholera, dysentery, and typhoid combined. An increase of 14 per cent. over 1917 was recorded for 1918. Malaria also causes, yearly, an increasing number of deaths. There was not registered a single case of either human or rat plague during 1918 anywhere in the Philippines.

At the close of 1918, seventeen hospitals were in operation under the control of the Health Service; two of these are located at Manila. At the Bilibid prison, the chief causes of mortality among the prisoners were pulmonary tuberculosis, intestinal parasites, amoebiasis, venereal diseases among the new arrivals, contagious eye diseases, grippe, and respiratory diseases. The San Lazaro Hospital, the only institution in the islands devoted exclusively to the care, isolation, and treatment of dangerous communicable diseases, admitted 4,803 patients during the year; of these, 401 were cholera patients, 1,079 smallpox, 860 varioloid, 460 measles, 650 tuberculosis, 302 leprosy, 326 insanity, 169 dysentery, and 162 mumps. Of those brought to the hospital for treatment, 1,180 died, nearly one-half from smallpox. A new general hospital and a new contagious hospital were opened in Zamboanga. One hundred and sixty-five new dispensaries were established, making a total of 562 in operation at the close of the year, serving over 380,000 people. At the Culion Leper Colony a number of permanent improvements were effected during the year: the construction of a Protestant chapel, the completion of the Culion Leper Clubhouse and the new leper schoolhouse, the construction of the sanitary barrio and of a medicated bath house, and the completion of the new Imhoff tank.

In the department of public health nursing, the work in Manila has been in the main along educational lines and in connection with child welfare, medical relief, and general hygiene and sanitation. Public health nurses attended to 224 abortion cases, 2,845 normal deliveries, 157 dystocias, and 732 post partum cases, supervised the feeding of 5,767 babies under two years of age, and gave 1,158 public and 9,289 private lectures.

Education and publicity have been promoted by a bi-weekly bulletin distributed to all parts of the Islands, and printed in the daily papers. Pamphlets and exhibitions, moving pictures, and lectures attended by 267,644 persons, helped to improve sanitary and hygienic condi-

tions. The organization of 167 women's clubs, making a total of 233, has proved to be one of the most effective measures yet evolved in reducing infant mortality, correcting prevalent dietary errors, improving domestic hygiene, and in improving generally the family, social, and economic standards. School inspection has been developed to the utmost latitude compatible with present appropriations. A total number of 1418 schools were inspected and 186,233 pupils were examined. The greatest interest and advancement in sanitary work has been noticeable among the non-Christian people. The Pacific coast of Mindanao has been given, for the first time in history, the benefits of a health organization.

In the Extra Cantonment Zone, sanitary work was carried on in and around Camp Claudio in order to safeguard the lives of the officers and men of the Philippine National Guard Division held in training from dangerous communicable diseases, such as cholera, typhoid, and smallpox.

A particularly interesting experiment tried by the Health Service in 1918 was the system of health organization designated the automatic health organization. This system consists, in a series of maps, curves and charts, card indexes and cross indexes, based upon data which have been obtained through the work of the Sanitary Commissions, and which will be installed in each sanitary division as rapidly as may be possible. Once this type of organization is established, it will be possible for the health officer to know at once what particular factor is bringing about an increase in morbidity and mortality and it will indicate with a reasonable degree of exactness the probable origin of the infection which is producing the morbidity and mortality. A little further and more detailed investigation will then enable the health officer to locate the cause with certainty. The system has been actually tried during the year in the provinces of Cebu and Bulacan. The results have far surpassed expectations as to the practical benefits to be derived from the system, and it is planned to extend it to every province beginning January 1, 1920.

THE annual meeting of the Massachusetts Medical Society will be held at the Boston Medical Library on June 8 and 9, 1920.

## PROPOSED READJUSTMENT OF OUR INSANITY LAWS.

THE recent tragic assassination of Dr. James Wright Markoe has reminded us once more of our faulty insanity laws. For years there has been advocated a readjustment of our insanity laws, not only for the welfare of patients, but also for the protection of society in general. The Brooklyn Neurological Society has called to our attention the urgent necessity of a combined nation-wide appeal for an investigation of the laws as they exist at present. It should be remembered that insanity is essentially a medical and not a legal problem. Under the present laws it is for the judge or jury to determine whether or not a man is insane, and safe or unsafe to be at large. Neither by education nor by training are members of the legal profession competent to decide upon these matters; this fact the majority of judges realize and prefer to abide by the opinions of psychiatrists.

Some of the most dangerous types of insanity, particularly paranoid conditions without deterioration, are the most difficult ones to diagnose. Not infrequently such cases are merely asked by the court whether or not they are insane, and upon a reply to the negative are discharged and are cast back, potential homicides, upon society. The medical profession is helpless to remedy these conditions, as the law grants to the judge or jury, and not to the physicians, the power of deciding such cases. If the present laws and legal procedure are not to remain unchanged, all physicians, individually and collectively, must interest themselves, the press, and the public. In a medical problem of this sort, indifference on the part of the medical profession is both detrimental to patients and dangerous for society.

---

## MEDICAL NOTES.

THE AMERICAN HOSPITAL FOR WOMEN AND CHILDREN IN MADURA, INDIA.—The American Hospital for Women and Children in Madura, India, has been installed in the new buildings made possible by the gifts of American women in the Atlantic States through the Woman's Board of Missions. The hospital was dedicated on February 16. At the dedication ceremonies Mrs. B. Rama Rao, a Christian Indian woman,

wife of a government official, voiced the love and gratitude of the women of India for this generous gift from America. British officials took part in the exercises, for the British Government gave a grant amounting to about one-fourth of the total cost of the hospital, which was 200,000 rupees, or about \$100,000 at the present rate of exchange. Gifts of silver were given by prominent Hindus for the endowment of a special ward for their caste.

In the center of Madura is one of its most famous buildings, the temple of the Goddess Menarchee. This temple is conspicuous for darkness, uncleanness, superstition, misery, and evil. The new hospital building stands not far from it, and its gleaming white walls are symbols of light, cleanliness, scientific knowledge, relief from pain, and spiritual ministry. The main building is similar in shape to the letter E and is made up of three connecting blocks devoted to medical, surgical, and maternity wards. It has high-arched, spacious windows, and wide verandas. A smaller, two-story building serves as a dispensary, and administered last year about 51,000 treatments. Other buildings included in the hospital plant are an isolation ward, a hostel for patients' friends, a morgue, a laundry, kitchens, and quarters for nurses and servants. The American doctor in charge is Dr. Harriet E. Parker, a native of Vermont, who has for twenty-five years given her skill and her love to the women and children of India. Associated with her is an American missionary nurse, Miss Mary Rogers of Medford, Massachusetts, and a staff of Indian nurses and compounders.

In a region about half as large as New England, there is no other mission hospital for women and children in Southern India, but these are staffed by male doctors, many of whom are Indians. Owing to the seclusion of women and the prejudices and customs of the land only the very poorest women or those in the immediate vicinity will go to such a hospital. Dr. Parker needs associates to help in the administration of this new hospital. American women doctors and surgeons who could minister to scores at home could in India serve millions of people.

**POST-GRADUATE AID TO COUNTRY PHYSICIANS.**  
—It has been announced by the Endowment Fund Committee of the New York Graduate Hospital that the \$100,000 contributed by Mrs.

Henry R. Rea in memory of her parents will be used to establish twenty scholarships for the benefit of country physicians who are unable to pay their own way through the advanced courses of instruction. Mrs. Rea's gift was made toward the \$2,000,000 Endowment Fund which the hospital and medical school are seeking. More than \$600,000 of the fund has been pledged and when the second million is being raised, Mr. James C. Brady will make a second contribution of \$125,000 and Mr. Vincent Astor will supplement his first contribution with another of \$75,000.

In awarding the scholarship prizes the committee of the Post-Graduate Medical School will consider the possibilities of public service of each candidate and the recommendations of State and county medical associations. The scholarships will not be confined to a small area, but will be distributed widely over the country.

In speaking of the need for a post-graduate endowment, Dr. John G. Bowman of the American College of Surgeons is reported to have made the following statements:

"There has been a revolution in the hospital world in the last two years. There are about 7,500 hospitals in this country and Canada, of which about 1,300 are general. Two years ago only 198 general hospitals had laboratories and record systems. Today, about 500 have them.

"Even now some doctors do not know how to diagnose cases by the results of laboratory tests, and are realizing that they must learn. The Post-Graduate is the outstanding hospital of the country where practicing physicians can go to learn this important science.

"Last year 15,000 women died in childbirth in the United States. That means that one out of every 154 women died while becoming mothers. When women demand better care that condition will be changed. It rests with institutions like Post-Graduate to teach the doctors and perform a real service to the community.

"Twenty-eight hundred physicians enrolled in the Army Medical Corps during the war had to be sent back to medical schools for further training.

"Today South America, where physicians on the whole are better trained than in the United States, is sending 150 doctors to America to make a survey and report on what we have to

offer. There will be a constant flow of student material from that continent, and Post-Graduate should have its share of them.

"The medical school and hospital should be prepared for its great opportunity. I strongly indorse the campaign for a \$2,000,000 endowment fund."

**PROPOSAL OF BILLS TO LIMIT DRUG PRESCRIPTIONS.**—At a recent hearing in New York before the Senate Public Health Committee, a series of bills making it unlawful for a physician to prescribe narcotic drugs, except in the treatment of diseases other than addiction, were discussed and denounced by a number of physicians, who expressed their belief that those desiring the promotion of such bills were interested financially in sanitariums to which wealthy drug addicts would thus be driven.

**INVESTIGATION TO BE CONDUCTED BY GENERAL GORGAS.**—Major-General William C. Gorgas, former surgeon-general of the United States Army, arrived in New York on April 16 from Lima, Peru. He is on his way to the West African coast, where he is to investigate for the Government of Peru conditions respecting the spread and control of tropical fevers. General Gorgas has been engaged by Peru to supervise and direct the sanitary regulations for checking the spread of the disease in that country.

**DECREASE IN THE DEATH RATE FROM CANCER.**—The American Society for the Control of Cancer has announced that for the first time since the organization of the Society there has been a decrease in the cancer death rate for two consecutive years, 1917 and 1918. The figures are encouraging and indicate that the influence of the Society is beginning to show results.

#### BOSTON AND MASSACHUSETTS.

**WEEK'S DEATH RATE IN BOSTON.**—During the week ending April 24, 1920, the number of deaths reported was 219 against 246 last year, with a rate of 14.13 against 16.11 last year. There were 48 deaths under one year of age against 41 last year.

The number of cases of principal reportable

diseases were: Diphtheria, 35; scarlet fever, 61; measles, 193; whooping cough, 63; typhoid fever, 2; tuberculosis, 55.

Included in the above were the following cases of non-residents: Diphtheria, 5; scarlet fever, 13; measles, 4; tuberculosis, 10.

Total deaths from these diseases were: Diphtheria, 2; measles, 1; whooping cough, 2; tuberculosis, 17.

Included in the above were the following non-residents: Diphtheria, 1; whooping cough, 1; tuberculosis, 1.

Influenza cases, 7; influenza deaths, 1.

**THE LAWRENCE GENERAL HOSPITAL.**—The report of the Lawrence General Hospital for the year ending August 31, 1919, records the activities of the hospital during the forty-fourth year of its existence. During the epidemic of influenza, the hospital capacity was taxed to the utmost. In order to give patients the benefit of open air treatment, there was provided by the state authorities, with the coöperation of the Lawrence Chapter of the Red Cross, a military tent hospital on Emery Hill: some of the convalescent patients from the hospital there received care and treatment. From September 25 to November 1, the hospital cared for one hundred and forty-two influenza and pneumonia patients. When it became too cold for the use of tents for patients, cubicles were built in the hospital grounds and the services of the hospital nurses were made available.

All the departments of the Lawrence General Hospital showed a normal growth during the year except the Out-Patient Department. The law obliging mills to employ nurses for the care of their minor illnesses and accidents had the effect of diminishing by almost one-half the number of patients usually sent to the hospital. There were treated only 1,218 patients, compared with 2,250 the preceding year. There have been some changes and additions made at the hospital. The laboratory has been improved and a technician employed, thus increasing the service which can be rendered doctors in the taking of diagnoses of diseases, and in making tests and doing microscopic work. The hospital's x-ray facilities have been increased by the installation of a better control



of the electricity so that both the power and quantity may be regulated at the same time. Nine hundred and eighty-five x-rays were taken during the year, an increase of two hundred and ninety over the year before. A motor ambulance has been secured for the hospital by the kindness of a friend. In order to aid the needy people of the city, the hospital hopes to be able to establish, before long, a Medical Out-Patient Department; this is especially desirable as the usefulness of the Surgical Out-Patient Department apparently is decreasing.

There were admitted to the hospital during the year 2576 new patients, making a total number of 2,648 cared for during the year. The death rate was .0925. There were treated 846 medical cases, 1,244 surgical, and 282 obstetrical cases. Two hundred and seventy-six babies were born. There were 528 orthopedic out-patients, 147 of whom were new cases. The number of patients admitted to the Out-Patient Department was 1,218. The hospital nurses made a total number of 8,815 visits. A class of sixteen nurses was graduated from the Training School.

**FUND FOR CENTRAL NEW ENGLAND TUBERCULOSIS SANATORIUM.**—An effort is being made to secure \$50,000 to complete the building fund for the Central New England Tuberculosis Sanatorium at Rutland. The sum of \$30,978.38 has been raised already. The people of moderate means in New England need very definitely better facilities for medical care in the treatment of tuberculosis.

#### NEW ENGLAND NOTES.

**NEW ENGLAND WAR RELIEF FUNDS.**—The principal New England War Relief Funds have announced the following contributions:

|                              |              |
|------------------------------|--------------|
| American Fund for French     |              |
| Wounded, for the American    |              |
| Hospital at Rheims .....     | \$340,044.04 |
| Italian War Relief Fund .... | 325,764.00   |
| Friends of Poland.....       | 145,087.88   |

#### Obituary.

**RICHARD JAMES PLUMER GOODWIN, M.D.**

DR. RICHARD JAMES PLUMER GOODWIN, a retired Fellow of the Massachusetts Medical So-

ciety, died at his home in Malden, April 19, 1920, at the age of 82, after a long illness. Dr. Goodwin was born in the North End of Boston, and was the son of Richard Hanson and Mary Ann Roberts Goodwin. He was educated in the Eliot School and was graduated from Harvard Medical School in the class of '65. He was married on December 29, 1859, to Josephine Louisa Allen, daughter of Captain and Mrs. Ezra Allen of Boston, and settled in Malden.

At the outbreak of the Civil War he enlisted as an army surgeon and served until the close. Then he went to Manchester, N. H., in charge of the United States Army hospital, remaining twenty years. He removed to East Boston, where he became associated with Dr. Benjamin Franklin Campbell, a graduate of the Harvard Medical class of 1857, in general practice, and remained there until January 1, 1890, when he went to Malden, and retired from active practice in 1903.

Dr. Goodwin's wife died twenty-seven years ago. He is survived by six daughters. He was a Mason and a member of the First Congregational Church of Malden.

#### Miscellany.

#### HEALTH DIVIDENDS YOU HAVE DRAWN.\*

BY STANLEY H. OSBORN, M.D., C.P.H., BOSTON,  
*Epidemiologist, Massachusetts Department of Public Health.*

THE residents of Massachusetts have not realized the decrease in deaths from communicable diseases in the state during the past few years because of the gradual manner in which they have diminished. In order that they may realize a few of the results obtained, in part at least, by the expenditure of funds by their local boards of health and the State Department of Public Health, this article has been written.

To show the results of the progress of preventive medicine in the Commonwealth, there are given below the median and average number of deaths and death rates for the more prominent communicable diseases for the three ten-year periods 1890-99, 1900-09, and 1910-19. The statistics for the single year 1919 are given

\* This article will also appear in the May-June bulletin of the Massachusetts Department of Public Health.

also to show that the deaths and death rates are still on the downward trend, despite the increase in population. The factors common in the reduction of all diseases have been isolation of cases and quarantine of contacts.

**Population.** The population of the state has increased greatly since 1890 and is given, the better to appreciate the decrease in deaths with an increasing population.

#### POPULATION OF MASSACHUSETTS.

| YEAR        | POPULATION |
|-------------|------------|
| 1890 .....  | 2,238,943  |
| 1900 .....  | 2,805,346  |
| 1910 .....  | 3,380,151  |
| 1919† ..... | 4,033,826  |

† Estimated from 1915 state and 1910 federal censuses.

#### TYPHOID FEVER.

| PERIOD    | DEATHS     |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|------------|---------|-----------------------------|---------|
|           | Median     | Average | Median                      | Average |
| 1890-1899 | 737        | 727     | 29.4                        | 29.5    |
| 1900-1909 | 518        | 501     | 16.6                        | 16.7    |
| 1910-1919 | 258        | 259     | 7.0                         | 6.6     |
| 1919-     | 102 deaths |         | Death rate 2.6              |         |

Briefly stated, the factors in reducing typhoid fever have been the improvement in water and milk supplies, sewage disposal, general sanitation, and the typhoid vaccine. In 1917, routine work was begun on the investigation of cases, particularly in an effort to locate typhoid bacilli carriers. Persistent and increasing efforts by the local boards of health and state district health officers brought to light 10 carriers in 1917, 7 in 1918, and 13 in 1919. Periodically each carrier is looked up to be sure that he is not engaged in an occupation where food is handled and a danger to others.

#### DIPHTHERIA.

| PERIOD    | DEATHS     |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|------------|---------|-----------------------------|---------|
|           | Median     | Average | Median                      | Average |
| 1890-1899 | 1,440      | 1,413   | 60.3                        | 57.6    |
| 1900-1909 | 749        | 867     | 23.9                        | 29.0    |
| 1910-1919 | 627        | 638     | 17.1                        | 17.3    |
| 1919-     | 591 deaths |         | Death rate 14.8             |         |

The special factor in diphtheria which assisted in the lowering of the death rate is diphtheria antitoxin, which was introduced in 1894 and a few years after became universally used. Prior to 1894, from twenty to thirty died out of every one hundred ill with diphtheria, but in 1919 only seven children died out of each one hundred cases of diphtheria.

A remarkable fact in diphtheria fatality has been demonstrated in Paris and reported by

Roux in the *Office International d'Hygiene Publique*, 1919, xi, No. 11. In the Children's Hospital in Paris there were 15,271 cases of diphtheria for the five years, 1914-1919. Of this number, only 378 died, giving a fatality rate of 2.64 per cent. This indicates that the fatality rate of 7.2 per cent. for Massachusetts is still capable of being reduced.

#### SMALLPOX.

| PERIOD    | DEATHS   |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|----------|---------|-----------------------------|---------|
|           | Median   | Average | Median                      | Average |
| 1890-1899 | 3        | 7       | 0.1                         | 0.3     |
| 1900-1909 | 5        | 42      | 0.15                        | 1.8     |
| 1910-1919 | 0        | 2       | 0.01                        | 0.07    |
| 1919      | 2 deaths |         | Death rate 0.95             |         |

The particular factor in the prevention of smallpox is vaccination. By this means, this disease has been controlled, but even in modern times prevails in the communities where groups of anti-vaccinationists are actively opposing vaccination, the chief means of protecting their community against smallpox.

The last great epidemic in Massachusetts was in 1901-1903, when 403 persons died of the disease. This gave the 1900-1909 period, the high death rate given above in the average, the median not being affected.

During the last decade, the deaths have been from a smallpox strain, from foreign lands, gaining a foothold in the unvaccinated. Thus, in 1915, there were nine deaths in 24 cases.

#### PULMONARY TUBERCULOSIS.

| PERIOD    | DEATHS       |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|--------------|---------|-----------------------------|---------|
|           | Median       | Average | Median                      | Average |
| 1890-1899 | 5,505        | 5,506   | 223.2                       | 224.0   |
| 1900-1909 | 4,683        | 4,724   | 156.6                       | 157.9   |
| 1910-1919 | 4,315        | 4,421   | 119.0                       | 119.7   |
|           | 4,188 deaths |         | Death rate 104.8            |         |

The death rate for pulmonary tuberculosis declined steadily until 1916, when it increased to 118.2 as compared with 113.2 in 1915. The rate increased to 120.5 in 1917 and 127.8 in 1918, but promptly fell at the ending of the war, the rate for 1919 being 104.8. Influenza played a part in the huge rate for 1918, but all of the factors responsible for this fluctuation are not as yet known.

#### SCARLET FEVER.

| PERIOD    | DEATHS     |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|------------|---------|-----------------------------|---------|
|           | Median     | Average | Median                      | Average |
| 1890-1899 | 338        | 412     | 11.5                        | 15.8    |
| 1900-1909 | 299        | 284     | 10.0                        | 9.9     |
| 1910-1919 | 156        | 173     | 4.1                         | 4.8     |
| 1919-     | 130 deaths |         | Death rate 3.3              |         |

## MEASLES.

| PERIOD    | DEATHS     |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|------------|---------|-----------------------------|---------|
|           | Median     | Average | Median                      | Average |
| 1890-1899 | 127        | 155     | 5.2                         | 6.3     |
| 1900-1909 | 192        | 228     | 6.4                         | 7.6     |
| 1910-1919 | 263        | 278     | 7.6                         | 7.4     |
| 1919-     | 183 deaths |         | Death rate 4.6              |         |

## WHOOPIING COUGH.

| PERIOD    | DEATHS     |         | DEATH RATE<br>(PER 100,000) |         |
|-----------|------------|---------|-----------------------------|---------|
|           | Median     | Average | Median                      | Average |
| 1890-1899 | 278        | 294     | 11.2                        | 11.9    |
| 1900-1909 | 269        | 303     | 8.3                         | 10.1    |
| 1910-1919 | 263        | 307     | 7.2                         | 8.2     |
| 1919-     | 319 deaths |         | Death rate 7.6              |         |

Of these three diseases, only one, scarlet fever, is controlled to any great extent. Deaths from measles and whooping cough, instead of decreasing, had increased to a certain degree as the population in the state has increased, which is clearly indicated by the foregoing table. Whooping cough was greatly affected by influenza, there being 240 deaths in 1917, 699 deaths in 1918, the epidemic year, and 319 deaths in 1919. Thus the average deaths and rate for the 1910-1919 period is higher than would have been the case if the influenza epidemic had not occurred.

It is hard for people to realize that there are more deaths from measles and whooping cough than from scarlet fever. Greater efforts in school hygiene would seem the only way in which this problem can successfully be coped with, combined with the education of parents, acquainting them with the necessity of the observation of quarantine and isolation procedures.

In other diseases, the work goes on to reduce the deaths and to treat disease to a successful outcome, particularly with biological products.

In anthrax, prior to 1916, the fatality rate ranged from 12.5 per cent. in 1914 to 40.0 per cent. in 1908. In 1919, the fatality rate was 5.5 per cent. This remarkable reduction in the fatality of this disease has been brought about by treating the case with corrosive poultices, rest in bed, liquid diet, the use of anthrax serum, and, above all, not operating on the case.

The use of serum in the treatment of epidemic cerebrospinal meningitis has decreased the fatality rate of this disease from 95.4 per cent. in 1911 to 69.9 per cent. in 1919.

The checking up of all dogs suspected of being rabid and urging the use of the anti-rabic treatment by all persons bitten by a dog, whose

head showed the presence of Negri bodies on laboratory examination, has practically eliminated human rabies from the state. Prior to the free distribution of this treatment by the department through the courtesy of the U. S. Public Health Service, who make the product, there were from two to eight deaths from human rabies each year. From 1916 to 1919 there was only one death from human rabies.

## Correspondence.

## THE MEDICAL PROFESSION AND LEONARD WOOD.

There has recently been published in the daily press the following letter, signed by members of the Boston profession:

For the first time by a presidential candidate, a definite statement has been made by General Wood regarding the need of correlating or possibly centralizing the various bureaus dealing with matters of public health. An individual may neglect his health, expose himself unnecessarily to disease, take patent medicines if he desires, and select his own doctor. The nation cannot afford to take any such chances with its citizens. The draft in the late war brought to the attention of everyone the fact that it had been doing so.

There is no better example of the unbusinesslike way we conduct our national affairs than the scattered groups which concern themselves with the important matters relating to public health. The Bureau of Public Health, which is responsible for our national quarantine, needs support and strengthening. Curiously enough it is a child of the Treasury Department. The Bureau of Chemistry, responsible for the standardization of drugs, and also the Bureau of Animal Industry, responsible for the health of the nation's livestock, which largely concerns the health of the people as well, is a branch of the Agricultural Department. The assembling of vital statistics, which underlies all our knowledge of disease and its prevalence, is made by a branch of the Bureau of the Census, which is in the Department of Commerce. Thus the Department of Commerce has recently distributed widely among the medical profession a pamphlet entitled "The Special Tables of Mortality for Influenza and Pneumonia;" and so the department of Commerce deals with a multitude of subjects so divergent as the prevalence of cancer, of insanity, and feeble-mindedness.

Efforts have been made by leaders in the medical profession to have these various bureaus dealing with matters of public health brought together. These efforts have all been unavailing, through lack of any appreciation of the great importance to the nation of a strong national Department of Health, such as other countries have long since established. The country has been aroused to these highly unsatisfactory conditions, and the present is the first real opportunity to have them corrected by bringing these various departments under a single organization.

Leonard Wood chances to have had a medical training, and sees these things more clearly than most others. It is unnecessary to recall what the country, and indeed the world, owes him for what was done in Cuba. Had he not by chance been governor of the island, Walter Reed and his associates would probably not have been permitted to undertake the investigation which led to the stamping out of yellow fever, one of the great contributions not only to the health and happiness but to the commercial prosperity of this hemisphere.

It is not often that a physician has an opportunity to show qualities of statesmanship. But there is no reason why a medical training should not be as valuable a preparation for this as a legal training. We have had some good examples of late—Clemenceau, and the newly-appointed British ambassador to Washington. Certainly at this particular juncture what the country needs is someone who knows enough about psychology and human behavior to lead our quarrelsome and restless national groups into proper channels, and to get them to work together for common rather than purely selfish purposes.

We feel that Leonard Wood is more likely to do this than any other candidate we know. British and French colonial governors have spoken of him as the best colonial governor any nation ever sent out—not because he established a good government in Cuba and rehabilitated Havana, but because he accomplished the impossible thing in making Spaniards and Cubans, after centuries of enmity and strife, bury their animosities and live peacefully together. This by persuasion, not by force, for force cannot accomplish these things.

Leonard Wood stands for law and order, and is more likely in this period of labor unrest to keep the country steady than any other person in sight. He succeeded in winning the approbation of labor and capital in the Gary strike through his sympathetic understanding, his deep knowledge of human nature and his desire to give a square deal to all interests.

Leonard Wood, moreover, is not only an American with the kind of family the country could well be proud to see in the White House, but like his great friend, Roosevelt, he too has been a student of foreign affairs and has shown a remarkable foresight in predicting international events. Owing to these qualities there is no other American who stands higher in the respect and admiration of foreign nations or has been tried in as many fields as has General Wood. One thing the country may be sure of should Leonard Wood be elected, namely, that he would surround himself by a Cabinet of wise and well-chosen advisers, selected without regard to any present political opposition. The country would then certainly feel at ease.

Leonard Wood has been a success in every field in which he has been tried. We have rarely had an opportunity to vote for a man who has proved himself a statesman and diplomat, a business administrator, an organizer, a champion of law and order, a leader and a sound judge of his fellow men.

HENRY JACKSON,  
HARVEY CUSHING,  
HUGH WILLIAMS,  
EDWIN A. LOCKE,  
FRANKLIN G. BALCH,  
JOHN T. BOTTOMLEY.

#### NARCOTIC PRESCRIPTIONS SHOULD BE WRITTEN IN INK.

May 4, 1920.

Mr. Editor:—

At a recent meeting of the Boston Association of Retail Druggists attention was called to the fact that some doctors are writing narcotic prescriptions with pencil instead of ink or indelible pencil, and when their attention has been called to the fact, have resented it, thereby causing a possible friction between doctor and pharmacist where none but the best of feeling should exist.

Realizing that the very large majority of doctors wish to conform to the law in every respect, could you not through the medium of your JOURNAL or some other medium call attention to Art. 119, page 52, of Regulations 35?

Thanking you for the favor, I remain

Yours very truly,

CHAS. H. DAVIS, Sec'y.

#### AN EARLY CASE OF PULMONARY SYPHILIS, AND ITS CURE.

Mr. Editor:—

In Gaucher's book, "La Syphilis des Viscères et de l'appareil Locomoteur," occurs the following interesting quotation from Brambilla's case report, written in 1777:

Translated, it reads: "An electuary was ordered for a patient supposed to be nearly moribund from advanced pulmonary tuberculosis. Through a mistake of the apothecary, the electuary was given to a syphilitic patient, with orders to use it as an inunction. The phthisical patient received the mercurial ointment, with orders to take it internally, which directions were complied with t. i. d. To the great wonder of the physician a cure resulted of the apparently hopeless case. Some time afterward he learned by accident from the apothecary how the wonderful cure was effected."

Yours truly,

WM. PEARCE COUES, M.D.

31 Massachusetts Avenue, Boston, Massachusetts.

#### RECENT DEATHS.

SIR ANDERSON STUART died on February 29, at the age of 64 years. He had been professor of physiology in the University of Sydney since 1883, and the dean of its medical faculty.

DR. SIDNEY FREEMAN WILCOX, of New York, a widely known surgeon and consulting physician for hospitals in New York, New Jersey, Connecticut, and Massachusetts, died of heart disease at Middletown, N. Y., recently while performing an operation at the Thrall Hospital.

Dr. Wilcox was professor of clinical surgery in New York Medical College and Hospital for Women from 1893 to 1915, and was professor emeritus at the time of his death. He was graduated from the New York Medical College in 1880.

He was born, August 13, 1855, at Fort Atkinson, Wisconsin. At the time of his death he was consulting surgeon for hospitals in New York, Passaic, New Jersey, New Haven, Connecticut, and Springfield, Massachusetts. He was a Fellow of the American College of Surgeons, and held membership in several New York and Garden City, Long Island, clubs. His home was in Garden City.

DR. JAMES WRIGHT MARKOE, whose death has been announced, was the son of Dr. Thomas Masters Markoe, a well-known surgeon. Dr. Markoe received his early education at St. Paul's School in Concord, New Hampshire, and obtained his diploma from the College of Physicians and Surgeons in New York, in 1885. He spent one year in research study at Munich, Germany, taking a post-graduate course. Upon his return to the United States he became the first house surgeon at the Sloane Maternity Hospital in New York. He occupied a chair of medicine at the City College of New York up to the time of his death. Through Dr. Markoe's efforts the Lying-in Hospital was first established on the East Side of New York; Dr. Markoe was its attending surgeon and chief consultant. He was associated with many state and city medical societies. Dr. Markoe is survived by his widow and one daughter.

DR. EDWIN LLEWELLYN CHASE of Shrewsbury, a Fellow of the Massachusetts Medical Society, died April 30, 1920, aged 49. He was a graduate of the Baltimore University School of Medicine in 1898.